

Volume 8

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

BEFORE THE HONORABLE WILLIAM H. ALSUP

ORACLE AMERICA, INC.,	)	
	)	
Plaintiff,	)	
	)	
VS.	)	No. C 10-3561 WHA
	)	
GOOGLE, INC.,	)	
	)	
Defendant.	)	
<hr/>		San Francisco, California
		Wednesday, May 18, 2016

**TRANSCRIPT OF PROCEEDINGS**

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7:10 a.m.

P R O C E E D I N G S

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(Proceedings were heard out of presence of the jury:)

**THE COURT:** All right. Let me know whenever you're all ready. I came out early on the bench because I got this avalanche of briefs overnight, and I don't want to delay the jury, so I would like to get started on the Mazzocchi motion, but I want to give you all a chance to get settled in.

**MR. VAN NEST:** We're ready to proceed on that.

**MS. HURST:** We are waiting for Mr. Bicks. If we could have one moment, I would be grateful, but we can start, if we have to.

Your Honor, we are ready to proceed.

**THE COURT:** Is Google ready to proceed?

**MR. VAN NEST:** Yes, Your Honor.

**MR. KWUN:** Yes, Your Honor.

**THE COURT:** I read the briefing on the Mazzocchi motion, and I want to hear argument, but I want to make clear that the only thing that I have ruled is on Rule 26. I did not rule any of this in evidence yet. And so Oracle was out of line to say that I had already ruled that this was in evidence.

I did overrule the Rule 26 objection. So that's -- now I see that there are several more documents that Oracle is trying to shoehorn in which have never been disclosed, so this is

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1 getting out of hand.

2 I want to ask how do you get around -- this is Oracle.  
3 How do you get -- on the document that I do know about, which  
4 was the April 17 email, how do you get around the hearsay  
5 problem?

6 **MS. HURST:** Your Honor, Dr. Astrachan testified as  
7 follows at trial, 1250, 8 through 20: (Reading)

8 **"Q.** And you also mentioned Apache Harmony. What is  
9 Apache Harmony?

10 **"A.** Apache Harmony is an independent implementation of  
11 Java SE that was developed by the nonprofit Apache  
12 Foundation. Both the GNU Software Foundation and Apache  
13 are nonprofit foundations.

14 **"Q.** To what extent, if at all, is the existence of Apache  
15 Harmony relevant to your opinions in this case?

16 **"A.** Well, Apache Harmony and the other independent  
17 implementations help me understand, help me understand  
18 that in general, it was very common to have independent  
19 implementations. That kind of demonstrates that it would  
20 be expected and reasonable for those things to happen."

21 That was testimony elicited on direct examination of  
22 Dr. Astrachan regarding a supposed custom to make  
23 independent -- unlicensed independent implementations, that it  
24 was his understanding, therefore his mental state, and that of  
25 the industry that people expected that it was reasonable for

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1 those things to happen.

2 Your Honor, these documents demonstrate that at Apache,  
3 they understood that it was not reasonable. It was their then  
4 existing mental condition that it was -- would be, if they  
5 released the code, intellectual property infringement. They  
6 understood that the APIs were copyrighted. They understood  
7 that they could not ignore those copyrights. They acted in  
8 accordance with that understanding ultimately by refusing to  
9 release the code, and yet this witness came and testified that  
10 it was common, that it was reasonable, and that people expected  
11 it to be reasonable.

12 Your Honor, if there is going to be evidence of custom in  
13 this case about Apache Harmony, then we are entitled to rebut  
14 it with these emails, and they show, first, that Apache did not  
15 believe there was such a custom; second, they were communicated  
16 to people at Google at the time because two of the emails were  
17 sent to the members at apache.org mailing list.

18 **THE COURT:** Which emails? That doesn't show up on the  
19 April 17th one.

20 **MS. HURST:** No, Your Honor. The April 7th -- one  
21 moment, please. The April 7th email, which I can hand up, if  
22 the Court would like it.

23 **THE COURT:** The one I have is April 17th.

24 **MS. HURST:** I'm sorry, Your Honor. April 6th. We've  
25 got three emails. April 6th --

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1           **THE COURT:** But these were not disclosed.

2           **MS. HURST:** Your Honor, they were disclosed -- they  
3 were in Google's database. Google produced these documents.

4           **MR. KWUN:** Your Honor, that is not true. These were  
5 produced in response to a subpoena by the Apache Software  
6 Foundation.

7           **THE COURT:** I'm not going to expand. I've already  
8 ruled on Rule 26. I'm not going to go there. This is getting  
9 out of hand. I'm on the verge of saying I'm going to take back  
10 what I said on the original email. This is just way out of  
11 hand for you to get one document excused under Rule 26  
12 disclosure and now you want to get in how many more? Five  
13 more?

14           **MS. HURST:** Your Honor, these documents were produced  
15 in discovery and they were added to the witnesses exhibit  
16 disclosure three or four days ago. They've had -- and he is an  
17 employee of Google right now. He is an employee of Google --

18           **THE COURT:** Let me see the documents. I want to make  
19 clear that this -- that April 17th document, the one I assume  
20 you care the most about, does not show that it went to Google.

21           **MS. HURST:** Your Honor, it does because it's copied to  
22 members at apache.org.?

23           **THE COURT:** That doesn't mean a thing to me or the  
24 jury as to whether or not Google read it.

25           **MS. HURST:** Your Honor, that's true, but we can



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1 demonstrate through the witness and other evidence that members  
2 at apache.org at the time included Google employees. Here are  
3 the three emails, Your Honor.

4 **THE COURT:** All right. What has been handed to me are  
5 Stefano Mazzocchi, April 6, to members Apache.

6 Who is Neil Pemberton?

7 **MS. HURST:** Your Honor, he's a member at this members  
8 Apache mailing list.

9 Your Honor, there is a reference here in Mr. Mazzocchi's  
10 response to the Harmony PMC. That was the Project Management  
11 Committee of Harmony of which Mr. Mazzocchi was a member. So  
12 he had the authority to speak on behalf of those who were  
13 directing the Harmony Project.

14 **THE COURT:** All right. Let me see if I can grasp what  
15 this is saying. "The proposal in this thread is to release  
16 without a license TCK and let Sun sue us is a far greater  
17 breach of ASF." What does that mean?

18 **MR. KWUN:** Apache Software Foundation.

19 **THE COURT:** What does IMO mean?

20 **MS. HURST:** *In my opinion.*

21 **THE COURT:** "The idea of ASF condoning IP infringement  
22 would morally destroy the ASF long before a Sun court case  
23 actually put us out of existence. Personally I think  
24 considering all options in a debate is healthy, but if you want  
25 a list of banned subjects, then you should add this as well,

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1     IMO."

2             FWIW, what does that mean? *For what it's worth?*

3             **MR. KWUN:** *For what it's worth.*

4             **MS. HURST:** Yes.

5             **THE COURT:** "For what it's worth, the Harmony PMC has  
6     never even considered such an option. I would personally just  
7     continue to work on Harmony this way without a release forever.  
8     Well, at least until we all get sick of it and move on instead  
9     of making one and risk hours of our downstream users' ass on  
10    it. Stefano."

11            So let's see. So Stefano is saying Harmony PMC has never  
12    considered such an option.

13            Who, again, was Neil Pemberton?

14            **MR. KWUN:** Your Honor, Neil Pemberton apparently was a  
15    member of the Apache Software Foundation. And just to be  
16    clear, we are talking about a membership of maybe a couple  
17    hundred people who were involved in a variety of projects. Mr.  
18    Pemberton was not involved in the Apache Harmony Project. He  
19    was just a member of the broader ASF mailing list, apparently.

20            **MS. HURST:** Well --

21            **MR. KWUN:** He's also not disclosed on any witness  
22    list. He is not going to be coming into court. It's just rank  
23    hearsay.

24            **MS. HURST:** Your Honor, it's not true that there were  
25    hundreds of members of Apache. To be a member of Apache, they

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1 had to be elected based on merit and contribution to prior  
2 projects. So this is not some open, you know, widespread  
3 thing. There's a certain number of members, and Google was  
4 always one of them.

5 **THE COURT:** I'm now looking at 9201, April 20, 2009,  
6 from Mazzocchi to "members apache.org." All right. What is  
7 the key part of this one? It's a long email.

8 **MS. HURST:** Your Honor, the point is Mr. Mazzocchi is  
9 writing "the bigger question in my mind," it's that paragraph.  
10 "the bigger question in my mind is not about hardware. What is  
11 Oracle going to do with five hundred million Java-powered cell  
12 phones? What is Oracle going to do about Android's ripping off  
13 some of now their IP and getting away with it?"

14 **THE COURT:** Let's hear from Google.

15 **MR. KWUN:** So, Your Honor, the -- I mean, we tried to  
16 lay it out in the brief that we filed last night. This is just  
17 hearsay. It's a sideshow. The opinion of one person --

18 **THE COURT:** What was his position at Apache?

19 **MR. KWUN:** He was -- at the time, he was a member of  
20 Apache -- of the Apache Software Foundation.

21 **THE COURT:** Does that mean he worked for them? They  
22 paid --

23 **MR. KWUN:** He was not employed. He was not paid by  
24 the Apache Software Foundation. At the time, he was employed  
25 by a startup in San Francisco, although he worked from

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1 Los Angeles.

2 **MS. HURST:** Your Honor, he was more than just a  
3 member. At one point, he was a director of the board of the  
4 foundation and he was also a mentor of this project, which  
5 means he was one of the people who started it, and he was also  
6 a member of the project management committee for Harmony.

7 **MR. KWUN:** Your Honor, he was not a director at the  
8 time of these emails.

9 **THE COURT:** Was he at the time of the April 17th, 2008  
10 email?

11 **MR. KWUN:** He was a member of the Apache Software  
12 Foundation, along with others. The members are all volunteers.  
13 That meant that on issues that came up that required a vote of  
14 the membership, he would have a vote in that. That would  
15 include all the people who were members and that would be with  
16 regard to all the projects for the Apache Software Foundation,  
17 regardless of whether they had anything to do with Java.

18 **THE COURT:** Is it true that somebody at Google got a  
19 copy of this email?

20 **MR. KWUN:** Your Honor, there were probably at least a  
21 couple of people at Google who were on this mailing list. I  
22 don't know that they used their Google email addresses for  
23 them. I don't know that that they read them.

24 The two names that have come up in documents that they  
25 have -- that they have -- they have designated as exhibits for

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1 Mr. Mazzocchi are Greg Stein and Brad Fitzpatrick. Neither of  
2 them are Java engineers. One of them codes primarily in C and  
3 C++. Actually, I think just in primarily in C. And the other  
4 one codes primarily in Python. Neither of them were active in  
5 the Apache Harmony Project.

6 **MS. HURST:** Your Honor, Mr. Stein is the person with  
7 whom Mr. Rubin had the email exchange where Mr. Rubin said  
8 java.lang APIs are copyrighted, wish them luck. That's the  
9 same Mr. Stein who received these emails. He was in  
10 communication with Mr. Rubin, who was the head of Android. We  
11 have that already in the record, Your Honor.

12 **THE COURT:** What do you say to that?

13 **MR. KWUN:** Your Honor, they have not called Mr. Stein  
14 as a witness. They haven't designated him as a witness. There  
15 is nothing to suggest that he read any of these emails. And  
16 there is not going to be anything to suggest that he read any  
17 of these emails.

18 **THE COURT:** What do you say to the -- so the Oracle  
19 argument goes as follows: You have suggested that there was a  
20 custom in the industry, and used Harmony as an example that it  
21 was okay to reimplement the Java API. And this indicates that  
22 the thinking within at least one person in a responsible  
23 position within Apache was to the contrary.

24 **MR. KWUN:** Your Honor, I think --

25 **THE COURT:** Why isn't it admissible for the state of

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1 mind of at least one person who had something important to do  
2 with Apache Harmony?

3 **MR. KWUN:** Your Honor, if we were going to have this  
4 sort of a sideshow, it's really just going to confuse the jury,  
5 I think, and to place undue --

6 **THE COURT:** This is not a sideshow. I mean, your own  
7 witness brought up Apache Harmony as an example of this custom.

8 **MR. KWUN:** Your Honor, the action that speaks most  
9 loudly on behalf of Apache is the fact that this code was  
10 developed in the open, it was available in their source code  
11 repository since before these emails, during these emails and  
12 after these emails. That is the custom and practice to which  
13 Professor Astrachan testified, and nothing in these emails is  
14 going to change that.

15 **MS. HURST:** Your Honor, it wasn't just Dr. Astrachan.  
16 It was also Mr. Phipps who testified that there was some  
17 supposed custom, and they've offered evidence throughout their  
18 case that they relied on the idea that Apache Harmony was okay  
19 because everybody in the industry thought it was okay.

20 **MR. KWUN:** Your Honor, you precluded Mr. Phipps from  
21 testifying about custom and practice, industry custom and  
22 practice. He testified about what Sun did in response to  
23 Apache Harmony and GNU Classpath, and he testified that he met  
24 with people at Apache Harmony and he worked with them and that  
25 Sun had no intention of trying to shut down Apache Harmony.

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1 That's far more relevant than anything that's coming up here.

2 **THE COURT:** Well, but I mean you -- you did put in  
3 lots of evidence, whether or not I -- you've got in lots of  
4 evidence about Sun's intentions toward Apache Harmony. And  
5 you're using that to show that there was an attitude in the  
6 industry that it was okay. And what Ms.Hurst wants to show is  
7 that ironically enough, there was somebody at the receiving end  
8 of that at Harmony thinking exactly the opposite. So I don't  
9 know.

10 **MR. KWUN:** Your Honor --

11 **THE COURT:** I have a ruling ready in my mind, but I'll  
12 let each of you say one more thing.

13 What else do you want to say?

14 **MR. KWUN:** Your Honor, there is also no evidence that  
15 Mr. Mazzocchi ever spoke to anyone at Sun so that he had any  
16 foundation for any belief about what Sun actually considered to  
17 be okay or not okay. But moreover, even if this testimony were  
18 allowed, they should not be allowed to elicit testimony from  
19 Mr. Mazzocchi about his current employment. If the issue goes  
20 to Apache's -- excuse me -- to Mr. Mazzocchi's state of mind in  
21 2008, where he is currently employed, which is Google, on  
22 non-Android projects is wholly irrelevant and would be highly  
23 prejudicial.

24 And if these are not being offered for the truth of the  
25 matter asserted, we also should be entitled to a limiting

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1 instruction making that absolutely clear to the jury, that  
2 these are not being offered for the truth of the matter  
3 asserted. But the bigger point is that none of this is  
4 relevant to anything in this case.

5 **THE COURT:** All right. Ms.Hurst, do you have anything  
6 more to say?

7 **MS. HURST:** Mr. Mazzocchi joined Google before the  
8 filing of the Complaint, Your Honor. We have already agreed to  
9 that time period. I would limit any examination regarding his  
10 employment by Google in accordance with that prior instruction  
11 and agreement that the Court has indicated that it wishes on  
12 the period for good faith or bad faith.

13 **MR. KWUN:** Your Honor, either these are relevant to  
14 the state of mind of Apache and Mr. Mazzocchi when he was at  
15 Apache or it's clearly just an attempt to taint the jury by  
16 suggesting that somehow this was the belief of Google or that  
17 that Google had knowledge by bringing up the fact that years  
18 later, Mr. Mazzocchi was employed by Google.

19 **THE COURT:** All right. Can I now give you the ruling?

20 **MS. HURST:** Your Honor, may I just ask for one thing.  
21 If we're not going to be permitted to say he's employed by  
22 Google, may I, nonetheless, treat him as an adverse witness and  
23 lead during cross-examination?

24 **THE COURT:** Yes.

25 **MS. HURST:** Thank you.



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1           **THE COURT:** All right. The answer is this.

2 Exhibit -- it looks like it's not -- 5046, which is the April  
3 17, 2008 thread that has the comments about the TCK and all  
4 that by -- all right. The -- that will be -- with one  
5 exception, that's going to be admitted in evidence upon laying  
6 foundation. And the objection by Google is overruled, but  
7 it's -- it's offered only for the limited purpose of the state  
8 of mind within the Apache Harmony Project to show what the  
9 custom was and what at least one person within Harmony thought  
10 about the custom of reimplementing the API.

11           However, the one sentence that I think is too inflammatory  
12 and without foundation and should come out is the one sentence  
13 that says "This makes us already doing illegal things. In  
14 fact, Android using Harmony code is illegal as well." That  
15 should not be used. But the two prior paragraphs that I think  
16 you're more interested in, they can be used.

17           So that one sentence about "This makes us already doing  
18 illegal things; in fact, Android using Harmony code is illegal  
19 as well," that should be deleted or at least redacted.

20           **MS. HURST:** We'll redact that, Your Honor.

21           **THE COURT:** All right. Now, the other two can be used  
22 for impeachment, but they cannot be used as case in chief  
23 because they were not disclosed under Rule 26(a). Or the other  
24 three or four, however many there are. So if he deviates from  
25 what he said in a prior email, you may use it to impeach, but

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1 that doesn't mean it comes into evidence. That means you have  
2 to use the impeachment format. Maybe it comes into evidence.  
3 It depends on what he says.

4 All right. And don't bring up that he works at Google now  
5 unless bias becomes a problem. If it appears that he's been  
6 coached to say things that may not be true, possibly then I  
7 would allow you to bring up that he works for Google and that  
8 Google -- he has met with the lawyers and so forth. But for  
9 the time being, you should steer clear of that. And you may  
10 treat him as an adverse witness.

11 **MS. HURST:** Thank you, Your Honor.

12 **MR. KWUN:** Thank you, Your Honor.

13 **THE COURT:** Now let's go to your other problem, which  
14 is Dr. Leonard. Why isn't -- why isn't this --

15 **MR. VAN NEST:** He's not a today problem, and I would  
16 like a chance to read the brief they filed last night and  
17 respond to it. We haven't done that. He's not a today witness  
18 anyway.

19 **THE COURT:** I thought you did file a brief? Didn't  
20 you file an objection?

21 **MS. HURST:** We filed the objection.

22 **MR. VAN NEST:** No. They filed an objection,  
23 Your Honor, to a rebuttal witness.

24 **THE COURT:** It's your witness?

25 **MR. VAN NEST:** Yes. It's not a today issue. I would

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1 like a chance to look at what they filed, and I think we can  
2 take it up tomorrow morning.

3 **THE COURT:** You need to -- okay. I had it in mind  
4 that it was the other way around.

5 **MR. VAN NEST:** No.

6 **THE COURT:** All right. Okay. We can take it up  
7 tomorrow morning. All right.

8 What else can I help you with today?

9 **MR. VAN NEST:** Your Honor, Oracle filed its Rule 50  
10 motion last night, and I wonder if the Court would just like to  
11 set a briefing schedule so we brief it once? Do you want a  
12 written response? What did you have in mind? They filed last  
13 evening.

14 **THE COURT:** I would like you to file a brief by, say,  
15 Saturday night.

16 **MR. VAN NEST:** Saturday night. Will do it. Thank  
17 you.

18 **THE COURT:** What else?

19 **MR. BABER:** Your Honor, as you know, we have had  
20 several discussions about this instruction regarding the prior  
21 trial, etc. Candidly, it keeps getting worse.

22 Yesterday at the close of her examination of Safra Catz,  
23 Ms.Hurst elicited testimony about some alleged conversation  
24 with the general counsel of Google that happened, she said, in  
25 March of 2012. Now, Ms.Hurst just said we've agreed to limit

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1 it to before the lawsuit, but yesterday they put in more  
2 evidence of something that happened literally right on the eve  
3 of our last trial.

4 So we think we do need the instruction on the law was not  
5 settled, there then was a judgment on which Google could rely,  
6 and they should only consider the evidence prior to the filing  
7 of the lawsuit.

8 **THE COURT:** All right. Ms.Hurst?

9 **MS. HURST:** Your Honor, the law that was prior to the  
10 Court's ruling -- 50(b) ruling -- Your Honor, I don't -- I  
11 don't want to get into an argument about the law being  
12 unsettled, but I will say this.

13 There's a case from the Ninth Circuit called *Micro Star*  
14 *vs. FormGen* that was authored by later Chief Judge Kozinski in  
15 which he clearly said that calls on preexisting software and  
16 audiovisual elements were the unauthorized creation of a  
17 derivative work and not a fair use.

18 Your Honor, with all due respect to the Court -- and I  
19 understand this is a difficult position for me to be arguing --  
20 we don't think it was unclear. And the prejudice for the Court  
21 getting into describing the legal proceedings we've previously  
22 described.

23 We agree that the jury should be instructed -- we will  
24 agree that that's the period of time that should be instructed  
25 for purposes of fair use. But they can bring Mr. Walker in

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1 here to deny that he had the conversation. He was the general  
2 counsel at Google at the time. He ambushed Ms. Catz at a Bat  
3 Mitzvah and said, you know, "the old rules really don't apply  
4 to us."

5 **MR. BABER:** There was no testimony, Your Honor, about  
6 ambush.

7 **THE COURT:** Did he say that?

8 **MS. HURST:** He did, Your Honor.

9 **MR. BABER:** No.

10 **THE COURT:** That's your version. Did he say that?

11 **MR. BABER:** No, Your Honor, he did not.

12 **THE COURT:** Why don't you bring him in to deny it?

13 **MR. BABER:** I can't speak to that, Your Honor. I  
14 haven't spoken to Mr. Walker myself.

15 **THE COURT:** Well, how do you know he didn't say it?

16 **MR. VAN NEST:** He didn't say it, Your Honor.

17 **THE COURT:** Look, bring him in and have him deny it.

18 **MR. VAN NEST:** I'm making judgments about -- now that  
19 they've got all the evidence in, they want to be very agreeable  
20 on this thing. We understood from what Your Honor said the  
21 other day that evidence during the last proceeding, either  
22 before it or after it, would not be considered on the bad faith  
23 issue, and then as soon as they get their very first witness on  
24 the stand, she says something she didn't say in the last trial.

25 This is all brand new, not true, but honestly, I have to

## PROCEEDINGS

1 make judgments about how much time I have and what's important  
2 to deal with. If the best evidence they have is a comment at a  
3 Bat Mitzvah, fine, I can live with that, but I'm not going to  
4 dignify it by bringing a witness in to deny it, even though he  
5 would.

6 **THE COURT:** Well, look, I don't know. That sounds a  
7 little hollow if he won't come in -- it would take him one  
8 minute to deny it.

9 **MR. VAN NEST:** Your Honor, I have to make judgments  
10 about what's important and what's not, and I don't think an  
11 offhand remark that was at the end of her testimony that's  
12 clearly intended to poison people is something that I need to  
13 rise up and take the bait on. I really don't. So, yes, it's  
14 not true what she said, and --

15 **THE COURT:** In fact, I'll go you even further. You  
16 can bring him in for the limited purpose of that one  
17 conversation, and there will be no opening the door to any  
18 other -- anything beyond -- it will just be that one  
19 conversation. So Ms.Hurst would not have a chance to argue  
20 about the merits of the case and anything else. It would just  
21 be that one conversation. It would take 60 seconds to put him  
22 on.

23 **MR. VAN NEST:** I appreciate that. And I'll consider  
24 it. Thank you.

25 But our bigger point is that after telling everybody and

## PROCEEDINGS

1 letting us all know that evidence post Complaint wouldn't be  
2 allowed, they throw that thing in with no notice, understanding  
3 that it's clearly post filing of the Complaint. So at this  
4 point, Your Honor, we -- as Mr. Baber has indicated, we do need  
5 to have something said about what went on before. I don't know  
6 what they're going to do today with witnesses, but it's  
7 extremely unfair to let them keep going on like that with no  
8 instruction from the Court.

9 **THE COURT:** I'm still deciding what to do on this  
10 issue. I'm not going to -- I may just handle it in the final  
11 instructions to the jury.

12 **MR. BABER:** Your Honor -- I know Your Honor is  
13 continuing to think about the issue. We also have some  
14 specific comments on the instruction Oracle proposed, I think  
15 it was the night -- last night, the night before last, if  
16 Your Honor wants to be heard on that. We submitted a proposed  
17 instruction --

18 **THE COURT:** Can you do that in writing for me?

19 **MR. BABER:** We can do it, yes, Your Honor. We can do  
20 it later today.

21 **THE COURT:** All right.

22 **MR. BICKS:** Your Honor, can I just ask kind of a more  
23 logistical kind of question in terms of your rules? When  
24 Dr. Jaffe testifies, he's an expert. And experts, as we  
25 know --

## PROCEEDINGS

1           **THE COURT:** Your side or their side?

2           **MR. BICKS:** On our side.

3           -- can rely on hearsay. My question to you is this: Is  
4 it permissible, when an expert is relying on hearsay, to  
5 display on the screen the hearsay document that the expert is  
6 relying on?

7           **THE COURT:** No.

8           **MR. BICKS:** Okay.

9           **THE COURT:** Maybe in a rare case, but it's a document  
10 not in evidence?

11          **MR. BICKS:** Correct.

12          **THE COURT:** I would say normally not. I can't say  
13 never but, you know, this is one of the most abused things in  
14 all of litigation, is using experts to launder inadmissible  
15 material and get it before the jury, and displaying it on the  
16 screen just makes it worse. But there are cases where I think  
17 it's legitimate so I'd have to -- I'd have to look at it.

18          **MR. BICKS:** Okay. Thank you.

19          **THE COURT:** Everyone run out of things to bring up?  
20 Maybe we can start with the jury. Do we have a witness still  
21 on the stand?

22          **MR. VAN NEST:** We do, Your Honor. Dr. Schmidt is on  
23 the stand on cross-examine.

24          **THE COURT:** All right. So let's bring back the jury.  
25 Let's bring back Dr. Schmidt.



**SCHMIDT - CROSS / KAMBER**

1 Dr. Schmidt where are you? You are the one from  
2 Vanderbilt or Duke?

3 **THE WITNESS:** Vanderbilt.

4 **THE COURT:** I guess they couldn't get anybody from  
5 Berkeley or Stanford. On both sides. Not that I have anything  
6 against Vanderbilt. I love Vanderbilt. We have experts from  
7 Duke, we have experts from Vanderbilt. I'm waiting for one  
8 from Stanford or Cal.

9 (Proceedings were heard in the presence of the jury:)

10 **THE COURT:** I want to thank you again for being so  
11 punctual. It's ahead of 7:45. You're already here. Great.

12 You will remember that we have on the stand Professor  
13 Schmidt from Vanderbilt University. He was examined on direct  
14 examination already. We were into the cross-examination. And  
15 we have a little bit more; right?

16 **MR. KAMBER:** That's right, Your Honor.

17 **THE COURT:** Tell me -- I'm going to wait until  
18 everyone has got their notepads ready to go. Are you on your  
19 second notepad? It looks like -- how many are on your second  
20 notepad? Look at that. Now, this is pretty interesting  
21 because most cases, they only use five or six pages in one  
22 notepad. So good for you. All right.

23 Okay. Counsel, go ahead.

24 **DOUGLAS SCHMIDT, PLAINTIFF WITNESS, PREVIOUSLY SWORN**  
25

**SCHMIDT - CROSS / KAMBER****CROSS-EXAMINATION (resumed)**

**BY MR. KAMBER:**

**Q.** Good morning. Good morning, Dr. Schmidt.

**A.** Good morning, Mr. Kamber.

**Q.** You teach courses in Android; is that correct?

**A.** That's correct.

**Q.** You teach Android to your students at Vanderbilt?

**A.** That's correct, too.

**Q.** You've hoped to motivate other professors at Vanderbilt to also start shifting their courses to start teaching their students to use Android as well; correct?

**A.** I may have hoped that for a moment, but it's not my responsibility to do that.

**MR. KAMBER:** Can we play from TX 7774 at 4225, please.

(Whereupon, the video was played for the jury)

**BY MR. KAMBER:**

**Q.** That was you in a lecture that you teach at Vanderbilt; right?

**A.** That's correct.

**Q.** Now, separate from Vanderbilt, you teach what are known as massive open online courses; right?

**A.** Yes. MOOCS.

**Q.** And those have thousands of students or participants; right?

**A.** That's correct.

## SCHMIDT - CROSS / KAMBER

1 Q. You teach them Android; right?

2 A. Yes.

3 Q. And as part of doing that, you encourage the people who  
4 are watching the MOOCS to download the Android source code;  
5 right?

6 A. That's right.

7 Q. And that code includes the method declarations that are at  
8 issue in this case; right?

9 A. Yes, it does.

10 Q. So you encourage them to make copies of those  
11 declarations; right?

12 A. I encourage them to download the source code.

13 Q. And in doing so, they make copies of the declarations as  
14 well?

15 A. Yes.

16 Q. Now, Android is a massive humongoloid thing; right?

17 A. A massive -- yes. It's a massive humongoloid thing, yes,  
18 I think I showed that yesterday in my testimony.

19 Q. You've used those words to describe Android; right?

20 A. Yes.

21 Q. The platform consists of lots of layers that we were  
22 looking at. That was one of your demonstratives; right?

23 A. That's right.

24 Q. Could we get 43.1 up, please. This is the stack diagram  
25 that people have been talking about; right?

## SCHMIDT - CROSS / KAMBER

1     **A.**    It is.

2     **Q.**    Okay.  Now, there's a Linux kernel at the very bottom of  
3     that; right?

4     **A.**    Yes.

5     **Q.**    And the Linux kernel that is used for Android is actually  
6     specific to Android; right?

7     **A.**    There are portions.  It's called the Android Linux kernel.  
8     It has some enhancements and changes to the kernel.

9     **Q.**    It's not what you might call plain vanilla Linux; right?

10    **A.**    That's correct.

11    **Q.**    You just mentioned enhancements.  Those enhancements  
12    provide additional capabilities that are added to work more  
13    effectively in the context of mobile devices; right?

14    **A.**    Yes.

15    **Q.**    And, in fact, the Androids variant of Linux has been  
16    heavily customized for the world of mobile devices; right?

17    **A.**    That's correct.

18    **Q.**    For example, there is support for power management.  We  
19    see that at the bottom right.  Do you see that?

20    **A.**    That's correct.

21    **Q.**    And that uses the battery very sparingly under certain  
22    circumstances, like dimming the screen; right?

23    **A.**    Yes.

24    **Q.**    And the Android version of Linux has very powerful support  
25    for power management; right?

1     **A.**    That's true.

2     **Q.**    Okay.  And dealing with power issues is a big, big issue  
3     in modern mobile computing.  You'd agree with that; right?

4     **A.**    Absolutely.

5     **Q.**    In fact, power management is one of the key things  
6     differentiating a mobile device from a desktop; correct?

7     **A.**    A mobile device from a desktop, yes.

8     **Q.**    Now, besides power management, there are a lot of other  
9     Android-specific features in the Linux kernel here; right?

10    **A.**    That's correct.

11    **Q.**    The binder IPC driver.  IPC stands for interprocess  
12    communications; right?

13    **A.**    Yes.

14    **Q.**    And in the context of Android and particularly the Linux  
15    here, the binder is heavily optimized for interprocess  
16    communications; correct?

17    **A.**    That's correct.

18    **Q.**    Okay.  Now, by the way, these additions, that is, this  
19    high performance interprocess communications, sophisticated  
20    power management, those are important because of the way in  
21    which people use these things as phones, not just mobile  
22    computers; right?

23    **A.**    That's -- that's correct.

24    **Q.**    Okay.  Those aren't the only enhancement, though, binder  
25    and power management; right?

**SCHMIDT - CROSS / KAMBER**

1   **A.**   When you said mobile computers, some of these things are  
2   also used for mobile computers as well, like power management  
3   where your computer runs on batteries.

4   **Q.**   Right. But one of the points that you've made is that  
5   some of these enhancements are because it's a phone and a  
6   computer in one; right?

7   **A.**   You would have to be more specific about which ones I'm  
8   talking about.

9   **Q.**   Okay. You mentioned high-performance interprocess  
10   communications and sophisticated power management; right?

11   **A.**   Right. So anything that runs on a battery will probably  
12   need power management, and sophisticated power management is a  
13   good thing. Optimized interprocess communication is something  
14   that's good for lots of situations, not just on a phone.

15   **Q.**   Okay. Is it true, sir, that high-performance interprocess  
16   communications, sophisticated power management, are important  
17   because of the way in which people use these things as phones,  
18   not just mobile computers?

19   **A.**   It seems to me useful to use them for both.

20           **MR. KAMBER:** Can we play TX 7775 at I believe it's  
21   3:48.

22           (Whereupon, the video was played for the jury)

23   **BY MR. KAMBER:**

24   **Q.**   Again, those aren't the only enhancements; right?

25   **A.**   There are other enhancements to the Android Linux kernel.

**SCHMIDT - CROSS / KAMBER**

1 Q. There is what is called a low memory killer; right?

2 A. That is indeed an Android-specific thing.

3 Q. And that -- yeah. That was unique to Linux, right,  
4 Android Linux?

5 A. Android Linux has a low memory killer.

6 Q. Right. There is also support for shared -- excuse me --  
7 shared memory functionality; right?

8 A. Shared memory functionality is something that Linux has in  
9 general. Android has a specific variant that is not standard.

10 Q. Let's talk about the libraries that we have in green,  
11 Dr. Schmidt.

12 Now, these libraries do all kinds of interesting things.  
13 In fact, a lot of the actual heavy lifting in Android is  
14 actually done in C and C++; right?

15 A. There's certainly parts that are written in C and C++,  
16 yes.

17 **MR. KAMBER:** Can we play TX 7775 at 5:08, please.

18 (Whereupon, the video was played for the jury)

19 **BY MR. KAMBER:**

20 Q. The reason it's done in C and C++ is for performance  
21 reasons; right, Dr. Schmidt?

22 A. That's one of the reasons.

23 Q. The -- this layer also includes various different  
24 libraries. There's a media framework; right?

25 A. Yes.

## SCHMIDT - CROSS / KAMBER

1 Q. The media framework is very, very complicated, isn't it?

2 A. The media framework is written in C and C++ and is very,  
3 very complicated, yes.

4 Q. And Android includes WebKit, it includes SQLite, it  
5 includes SSL; right? All of those things are depicted on the  
6 stack diagram?

7 A. Yes. Those are the 64 percent of the things that were not  
8 written by Google.

9 Q. Those were open source components that were integrated  
10 into the Android platform; right?

11 A. Right. Part of the 64 percent.

12 Q. When you talk about the 64 percent, that was based on  
13 looking at the copyright headers on the code; right?

14 A. That's correct.

15 Q. You didn't look into the code to see whether and to what  
16 degree Google had to customize those features or those  
17 libraries or those open source projects in order to integrate  
18 them into that environment; right?

19 A. The analysis that I conducted looked at the copyright  
20 headers.

21 Q. Right. You didn't look at what Google had done in order  
22 to change these different components in order to integrate them  
23 into Android; right?

24 A. No.

25 Q. When you say *no*, you mean -- the question was *right*? You



## SCHMIDT - CROSS / KAMBER

1 didn't do that; right?

2 **A.** I did not do that.

3 **Q.** Okay. Thank you.

4 Now, next up is -- there is the application framework  
5 layer at the top; right?

6 **A.** Yes.

7 **Q.** You sometimes call this a middleware framework; correct?

8 **A.** That's correct.

9 **Q.** And that handles common services that the applications at  
10 the top layer use; right?

11 **A.** That's correct.

12 **Q.** Okay. It's a rich set of capabilities, isn't it?

13 **A.** I think there's a hundred and some packages, all of which  
14 depend on the core libraries, of course, but, yes, there is  
15 many of them.

16 **Q.** And calling it a framework might actually be a misnomer.  
17 Wouldn't you agree?

18 **A.** I think there's actually many frameworks, not just one.

19 **Q.** Right. It's a plurality of frameworks; right?

20 **A.** That's correct.

21 **Q.** And they include things for the graphical user interface,  
22 telephony services, camera, multimedia, application frameworks,  
23 application distribution, all of those things; right?

24 **A.** That's correct.

25 **Q.** Okay. And there's something really cool called the

1 activity manager; right?

2 A. Yes.

3 Q. Okay. And you consider that a very powerful -- you  
4 consider that very powerful and very cool?

5 A. Activity manager is pretty cool.

6 Q. Okay. There's also the location manager that's in this  
7 application framework; right?

8 A. That's correct, yes.

9 Q. And that's something else that really gives mobile phones  
10 some of their coolness, is a location manager that keeps track  
11 of where you are; right?

12 A. It works with the hardware to do that, yes.

13 Q. Okay. That's -- okay. So you can use that for things  
14 like Google Maps or Navigation or Wayfinding because it's got  
15 this location management functionality; right?

16 A. Absolutely.

17 Q. That wasn't in the SavaJe Jasper S20; right?

18 A. I don't know whether it was in there or not.

19 Q. You didn't look for that?

20 A. No.

21 Q. It wasn't in the Danger Hiptop; right?

22 A. I'm not aware.

23 Q. Most of these things weren't; right?

24 A. Most of which things?

25 Q. Most of the libraries in the application framework that

## SCHMIDT - CROSS / KAMBER

1 we've just been talking about were not in those devices?

2 **A.** I wouldn't -- I wouldn't agree with that. I think there  
3 was a telephony manager, undoubtedly Window manager, ways of  
4 storing data, ways of being able to visualize things on the  
5 screen, ways of doing notifications. Those things were in  
6 those other devices.

7 **Q.** Let's talk about the Android Runtime; right? That's where  
8 we are in this case; right?

9 **A.** A portion of the Android Runtime, yes.

10 **Q.** Just a portion of it, though; right?

11 **A.** Right.

12 **Q.** And the Dalvik Virtual machine, that is not the same as a  
13 Java virtual machine; right?

14 **A.** No. It plays a similar role.

15 **Q.** It plays a similar role. But the bytecode for Dalvik is  
16 different; right?

17 **A.** The bytecode interpreted by Dalvik is not the same,  
18 although it's transformed from the same bytecode.

19 **Q.** Right. But it's customized for the mobile environment,  
20 the bytecode that is used in Android?

21 **A.** The bytecode that's used in Android is a different form  
22 than the one that is used in Java, although it's translated  
23 from it.

24 **Q.** Right. Because people have to write in Java?

25 **A.** People don't necessarily have to write in Java. The

**SCHMIDT - CROSS / KAMBER**

1 translation occurs with the Java bytecode into the Dalvik  
2 bytecode. That's part of the way the Android works.

3 **Q.** Fair enough. That's a good point, by the way. People  
4 don't have to write in Java. That's because they can write in  
5 C or C++ using the Native Development Kit; right?

6 **A.** Yes. But that's discouraged by Google's documentation.

7 **Q.** I think I took Mr. Van Nest's water and not mine.  
8 Thankfully I figured it out early enough.

9 Now, Dalvik is a register-based machine. That's different  
10 than the stack-based Java virtual machine; right?

11 **A.** That's correct.

12 **Q.** Okay. Now, let's talk about the little pillbox that we  
13 call core libraries; right?

14 **A.** Sure.

15 **Q.** That's been the focal point of this case; right?

16 **A.** Yes.

17 **Q.** And this includes the Java packages that are at issue  
18 here, particularly the declarations from 37 packages; right?

19 **A.** That's correct.

20 **Q.** Okay. And in addition, it includes the independent  
21 implementing code; right?

22 **A.** Yes.

23 **Q.** And there are over 100 Android-specific packages; right?

24 **A.** Yes. All of which depend on the declaring code that was  
25 copied.

**SCHMIDT - CROSS / KAMBER**

1 Q. Okay. But there are 100 -- over 100 packages that were  
2 written by Google that start in the Android namespace; right?

3 A. That's correct.

4 Q. And they include things for user interface programming;  
5 right?

6 A. Yes, they do.

7 Q. Connectivity and networking; right?

8 A. There is some things there, yes.

9 Q. Access to system level services, including concurrency?

10 A. Yes.

11 Q. Application level stuff? Content management and  
12 interacting with the user; right?

13 A. That's correct.

14 Q. Okay. There is a lot of these classes; right?

15 A. There's many of those classes, yes.

16 **THE COURT:** It's unclear what we're talking about  
17 here. A moment ago you said that all of the things that  
18 counsel is talking about depended upon the lines of declaring  
19 code.

20 **THE WITNESS:** Yes.

21 **THE COURT:** Is that -- all right. Are you talking  
22 about ones that were separate from the 37?

23 **MR. KAMBER:** I am, Your Honor.

24 **THE COURT:** I think the witness is talking about the  
25 37. So would you clarify what you mean.

## SCHMIDT - CROSS / KAMBER

1           **THE WITNESS:** Sure.

2           **THE COURT:** So the jury can understand this  
3 distinction.

4           **THE WITNESS:** So if you recall yesterday, sir, when I  
5 talked about the platform dependency test, all the things that  
6 Mr. Kamber was just talking about, all those hundred packages  
7 and classes, which in fact were done by Google, all of those  
8 packages, implementations, access and use very heavily the  
9 declaring code from the 37 APIs. And that's what the  
10 platform --

11           **THE COURT:** You are saying that those other ones that  
12 were written by Google, those other packages, nevertheless  
13 somehow tie in to the declarations --

14           **THE WITNESS:** Yes.

15           **THE COURT:** -- that were written by Sun?

16           **THE WITNESS:** Yes, Your Honor. If you recall your  
17 question to Mark Reinhold, you asked him about calls and  
18 commands and invocation, so all the things that we're talking  
19 about here, all the stuff that Google wrote is actually calling  
20 or invoking those methods that are part of the declaring code  
21 from the 37 API packages.

22           **THE COURT:** Thank you for that clarification. Go  
23 ahead, counsel.

24           **BY MR. KAMBER:**

25           **Q.** Because those 37 include basic things like java.lang;

1 right?

2 **A.** The 37 certainly include java.lang, yes.

3 **Q.** And util and things like IO, input/output, that are basic  
4 to the Java programming environment and language; right?

5 **A.** There is 792 of these classes and interfaces, yes. There  
6 is quite a number of them in 37 packages.

7 **Q.** But in terms of providing -- strike that.

8 Dr. Schmidt, the move from desktop computers to mobile  
9 devices is the greatest evolution that you've ever seen since  
10 you became a professor, which was quite some time ago; right?

11 **A.** Certainly in terms of my ability to teach my students  
12 exciting things, yes.

13 **Q.** So you'd agree with me that that evolution is the greatest  
14 one you've ever seen since becoming a professor?

15 **A.** Yeah. I think mobile computing -- mobile cloud computing  
16 is taking over the world.

17 **Q.** And one reason why it's so exciting is you now finally  
18 have something that's a form factor that you can literally hold  
19 in the palm of your hand; right?

20 **A.** Yes.

21 **Q.** But it can do everything we've always expected computers  
22 to do?

23 **A.** Not everything, but most things, yes.

24 **Q.** You can --

25 **A.** You can't run everything on it, but you can run lots of

## SCHMIDT - CROSS / KAMBER

1 things.

2 Q. Fair enough. You can do computation on it, you can do  
3 user interface presentation and display, you can do input,  
4 human computer interaction, for example. You can do networking  
5 on these things. You can do concurrency. You can do  
6 persistent storage and databases. Right?

7 A. You can do all those things on a laptop or desktop as  
8 well.

9 Q. Right. But now you can do it on one of these; right?

10 A. You can also do it on one of those, that's true.

11 Q. Pretty much any topic you can think of in the computer  
12 science curriculum can now be taught using Android; right?

13 A. Pretty much anything I would teach, yes.

14 Q. It's all right here?

15 A. Lots of great stuff is in there.

16 Q. That's very much unprecedented, isn't it?

17 A. Well, after we started seeing smartphones come out,  
18 smartphones like the BlackBerry, smartphones like the iPhone,  
19 smartphones like Android, other smartphones, this has been  
20 something that has been much easier to give to students,  
21 especially because they don't have to go out and buy a  
22 mainframe or buy a server or buy a router. They can buy a  
23 phone and then they can learn about all these concepts that I  
24 like to teach in my classes. That's right.

25 Q. And the question was, Dr. Schmidt, that's pretty much



**SCHMIDT - REDIRECT / HURST**

1   unprecedented, isn't it?

2   **A.**   It was hard to carry around a server in your pocket  
3   before, yes, that's right.

4   **Q.**   So it's unprecedented.  You'd agree with me?

5   **A.**   I think it's great.  It's -unprecedented.  Yeah.  It's  
6   fantastic.

7   **Q.**   Then when you crosscut the fact that you can also leverage  
8   all of the cool mobile capabilities, that's the real thing;  
9   right?  The various sensors, GPS and accelerometers so that you  
10   can play games and wave it around and all the things you can do  
11   via USB or Bluetooth to connect it to other devices; right?

12   **A.**   Yeah.  It's a great.

13   **Q.**   It's an amazing newfangled way of doing things, isn't it?

14   **A.**   *Newfangled* sounds like something I would say, yes.  It's  
15   newfangled.

16   **Q.**   The result is a change in the way people do computing;  
17   right?

18   **A.**   Yes.  Sure.

19           **MR. KAMBER:**  Pass the witness.

20           **THE COURT:**  Thank you.

21           Next, Ms. Hurst.

22           **MS. HURST:**  Thank you, Your Honor.

23                   **REDIRECT EXAMINATION**

24           **BY MS. HURST:**

25   **Q.**   Professor Schmidt, you remember yesterday you were asked

## SCHMIDT - REDIRECT / HURST

1 some questions about Keystone?

2 A. Yes.

3 Q. Have you done other consulting engagements in your career  
4 that were not expert witnessing?

5 A. Yes.

6 Q. And have you used consultants to assist you on those  
7 occasions?

8 A. Absolutely.

9 Q. And could you describe how the work goes in terms of who  
10 directs the work and who performs the work?

11 A. As a consultant, my role has always been to do what is  
12 requested of me. If people want me to write a test, if people  
13 want me to find examples of something, do a literature search,  
14 those are all things I do as an expert -- consultant. Consult  
15 for experts.

16 Q. And who directed the work in connection with your work  
17 with Keystone in this matter?

18 A. I did.

19 Q. And could you describe the sorts of directions that you  
20 gave them?

21 A. Sure. So I had some things that I needed to have done,  
22 things like looking up footnotes, looking up references,  
23 creating tables, and running various tests under my direction.  
24 Those are the kinds of things.

25 Q. All right. Did you check it when they were done?

## SCHMIDT - REDIRECT / HURST

1     **A.**     Absolutely.

2     **Q.**     All right.  Now, Mr. Kamber was just asking you about some  
3     advances in computing on smaller form factors.

4     **A.**     Yes.

5     **Q.**     And is -- he asked you if it was unprecedented.  Do you  
6     remember that?

7     **A.**     I do.

8     **Q.**     Was it -- was there any information or rule of thumb in  
9     the industry that would predict such advances?

10    **A.**     So certainly things have been getting better, faster,  
11    cheaper, smaller for quite a long time, for the last 30 or 40  
12    years with Moore's law and Metcalfe's law and other things that  
13    make computers more easy to use, able to be smaller, able to be  
14    faster, able to run batteries powered operations longer.  So  
15    that's a trend that has been going on for quite a long time.

16    **Q.**     Would you describe Moore's law for the jury.

17    **A.**     Sure.  Moore's law was named after Mr. Moore who was head  
18    of Intel, and Moore's law basically says that every 24 to 18  
19    months, the number of transistors on a chip doubles.  And over  
20    the past 40 years or so, Moore's law has enabled computers to  
21    get smaller and faster at a fairly predictable rate, which  
22    means that every couple of years, what you couldn't do before  
23    with a certain form factor, be it a server or a laptop or a  
24    desktop or a mobile phone, is now doable within a very short  
25    period of time because it keeps getting faster.  Nowadays

## SCHMIDT - REDIRECT / HURST

1 things don't get so much faster. We just have lots and lots  
2 more processors and lots and lots of more cores.

3 **Q.** All right. And what, if any, relationship does Moore's  
4 law have in helping you understand transition from the  
5 capabilities in smartphone devices relative to Java SE?

6 **A.** Sure. So I think if you look back to the 2000-ish time  
7 frame when things like the mobile -- the T-Mobile Sidekick and  
8 the Danger OS that Mr. Rubin talked about, they were some of  
9 the first environments to use Java SE in a mobile form factor.  
10 And the computers were reasonably powerful then, but they  
11 certainly aren't what they are today.

12 Mobile phones today, since they are so unprecedented,  
13 they've got pretty much the same processing capability in your  
14 hand, which is why I get so excited about this. You have carry  
15 around more processing capability in your hand than we had on  
16 our desktops and servers back when I was a grad student. It's  
17 phenomenal.

18 And in the 2000 time frame when some of this stuff was  
19 starting, this was just when it became possible to use things  
20 like Java SE in a mobile device. And every 18 to 24 months  
21 from 2000 onward, the processing power would double. So by the  
22 time that Android came out in the 2008 time frame, we had  
23 processors that were more than capable of being able to run  
24 Java SE. In fact, we know that that was the case because they  
25 had been using Java SE in the Danger OS, using them in the

**SCHMIDT - RECROSS / KAMBER**

1 SavaJe and these other environments.

2 So every couple years, the ability to use more and more  
3 powerful software in the smartphone form factor has been the  
4 case, and that has been going on for well over a decade, back  
5 to the 2000 time frame.

6 **MS. HURST:** No further questions.

7 **THE COURT:** Anything more?

8 **MR. KAMBER:** Very briefly, Your Honor.

9 **RECROSS-EXAMINATION**

10 **BY MR. KAMBER:**

11 **Q.** Dr. Schmidt, you mentioned consulting work that you've  
12 done in the past. And those are situations in which you've  
13 been hired as a consultant and you bring in some help for  
14 support; correct?

15 **A.** Various things. I've done lots of consulting over my many  
16 years.

17 **Q.** Right. In this case, Keystone brought you in to do the  
18 work; right?

19 **A.** They are the ones who contacted me originally, yes.

20 **Q.** They're the ones who contacted you, and then they were the  
21 ones who were providing you with this information to help  
22 support your report; correct?

23 **A.** I wouldn't say providing me with the information.  
24 Keystone was the one who put me in contact with the team of  
25 people that I've worked on for the last five or months or so.

1 Q. You had never worked with Keystone before; right?

2 A. I have never worked with Keystone before.

3 Q. Again, we talked about it yesterday, there were those four  
4 people that were helping you at Keystone; right?

5 A. People I was directing.

6 Q. Right. You were directing them, but you can't remember  
7 one of their names; right?

8 A. That's right.

9 MR. KAMBER: No further questions.

10 THE COURT: Okay. May the witness be excused?

11 MS. HURST: Yes, Your Honor.

12 THE COURT: All right. Thank you, Dr. Schmidt. Thank  
13 you very much.

14 All right. While we are getting the next witness here, I  
15 have something for the jury to -- a heads-up. We are very  
16 likely to argue the case to you on Monday, and my thought to  
17 you is that you might want to stay past 1:00 each day next  
18 week. Maybe all week. Maybe. I don't know. It's up to you  
19 how long you want to deliberate.

20 But, counsel, I want to make sure you're okay with this.  
21 I think it would be fine for you to consult among yourselves at  
22 the next break what your hours will be next week. In other  
23 words, because you may have to make some arrangements this week  
24 in order to stay late next week. That's why I'm bringing it up  
25 now.

1 Now, you don't have to stay late next week. You can still  
2 stop at 1:00. That's totally up to you. You can stay to  
3 7:00 p.m. You can stay to midnight. We will be here as long  
4 as you're here, but you would -- if I spring it on you next  
5 week, it will be too late. So I'm asking you to consider at  
6 the next break or sometime today how long you want to be in  
7 session and during what days next week later into the day, past  
8 1:00, if at all.

9 Counsel, is that okay if they talk among each other on  
10 that subject?

11 **MR. VAN NEST:** Sure.

12 **MR. BICKS:** Absolutely.

13 **MR. VAN NEST:** Thank you, Your Honor.

14 **THE COURT:** So you have that -- something to work on  
15 at the next break, and you don't have to even report back to me  
16 yet on that, but just be thinking about it. This is Wednesday,  
17 so next week we have a few days to get your -- get it all lined  
18 up. Okay.

19 Let's go to the next witness.

20 **MR. BICKS:** Thank you, Your Honor. We are going to  
21 call Neal Civjan.

22 **THE COURT:** Very well. Let's bring him in.

23 Welcome. Good morning.

24 **THE WITNESS:** Good morning.

25 **THE COURT:** And you can just raise your hand somewhere

**CIVJAN - DIRECT / BICKS**

1 there comfortable and the clerk will swear you in.

2 **NEAL CIVJAN, PLAINTIFF WITNESS, SWORN**

3 **THE CLERK:** Please state your name for the Court and  
4 spell your last name for the record.

5 **THE WITNESS:** I'm Neal Civjan. My last name is  
6 spelled C-I-V-J-A-N.

7 **THE COURT:** Okay. Welcome. Please have a seat. And  
8 pull the microphone so it's about this close and so -- it will  
9 slide all around. Make it comfortable for you.

10 **THE WITNESS:** Okay.

11 **THE COURT:** Say your name again so we will test the  
12 mic.

13 **THE WITNESS:** My name is Neal Civjan.

14 **THE COURT:** Great.

15 Go ahead, counsel.

16 **MR. BICKS:** Thank you. Good morning, everyone.

17 **DIRECT EXAMINATION**

18 **BY MR. BICKS:**

19 **Q.** Mr. Civjan, please introduce yourself to our jury and  
20 explain your connection to Sun Microsystems.

21 **A.** So I'm Neal Civjan. Nice to meet you. I worked at Sun  
22 Microsystems for about 16 years and I ran global software OEM  
23 sales for 10 years starting in the year 2000.

24 **Q.** And share with us, did you go to college in this area?

25 **A.** Yes, I did. I went to San Francisco State for my



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1 Bachelor's degree and I went to Berkeley for my Master's in  
2 business.

3 Q. And what year did you join Sun?

4 A. I joined in 1994.

5 Q. And when did you become involved in Java licensing?

6 A. I joined the Java team when it was actually just getting  
7 started. There was 30 to 35 people. It was December of 1995.

8 Q. So December of 1995. Did you work at Sun up until the  
9 time that Oracle acquired it, which the jury has seen on a  
10 timeline here is about January of 2010?

11 A. Yes, I did.

12 Q. When did you become the vice-president of worldwide OEM  
13 software sales and how long did you have that position?

14 A. Well, I was running worldwide OEM software sales from  
15 2000, but I was promoted in that position in the year of 2003.  
16 And then I ran it all the way until -- so it was about ten  
17 years until we were bought by Oracle. And then I was running  
18 it after Oracle bought us as well.

19 Q. Understood. And then how long did you stay on at Oracle  
20 after the deal closed?

21 A. A year. About a year.

22 Q. All right. And let's show -- there's a document 9133.1,  
23 Your Honor, which was kind of the pared-down version of the  
24 document we talked about yesterday that we -- would be  
25 permissible to use.

## CIVJAN - DIRECT / BICKS

1           You're familiar with 9133.1, Mr. Civjan?

2     **A.**    Yes, I am.

3     **Q.**    It's a document that you actually prepared?

4     **A.**    Yes, it is.

5           **MR. BICKS:** I would move this into evidence.

6           **MR. RAGLAND:** No objection, Your Honor.

7           **THE COURT:** All right. Give me the number again,  
8 please.

9           **MR. BICKS:** 9133.1.

10          **THE COURT:** 9133.1 is now in evidence.

11         (Trial Exhibit 9133.1 received in evidence)

12          **MR. BICKS:** Trudy, if you can just go --

13     **Q.**    That's you on the front there, Mr. Civjan?

14     **A.**    Yes, it is.

15     **Q.**    This is a business update worldwide OEM software sales?

16     **A.**    Yes. That's correct.

17     **Q.**    The first page has an organizational chart. Is that you  
18 up at the top?

19     **A.**    Yes, it is.

20     **Q.**    And then give us a sense as to how many people you  
21 supervised.

22     **A.**    Well, at this point in time, as the chart says, there was  
23 134 people globally.

24     **Q.**    If we can go to the next page of this, Trudy.

25           This says Java landscape today, Mr. Civjan. This is the

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1 2009 time period?

2 **A.** Right.

3 **Q.** Yes. And can you just -- the first point, what does this  
4 explain to us?

5 **A.** So in -- at that point in time, we had Java running in  
6 over 2.6 cell phones globally and we had over 85 percent of the  
7 market, so we were absolutely dominant and ubiquitous in the  
8 marketplace.

9 **Q.** Our jury has heard the phrase *smartphone*. Was Java in  
10 smartphones at this time period?

11 **A.** Absolutely, yes.

12 **Q.** Can you share with the jury your knowledge on that topic.

13 **A.** Well, smartphones -- I mean, a smartphone is kind of a --  
14 it's just a phone that is -- at that point in time, it's got  
15 more memory, more computing power, etc., and the time the  
16 leading smartphone was RIM, BlackBerry. We were in the  
17 RIM/BlackBerry --

18 **Q.** A little slower. She is great, but it's hard to keep up.

19 **A.** I'm sorry, I'm sorry. So we were in the RIM/BlackBerry,  
20 and we were also in Danger, SavaJe, and some of the smartphones  
21 at the time.

22 **Q.** I want to talk to you about the next graphic on here.

23 **THE COURT:** Remind the jury what the date of this  
24 graphic is.

25 **MR. BICKS:** This is 2009, October, 2009.

## CIVJAN - DIRECT / BICKS

1           **THE COURT:** All right. Thanks.

2           **BY MR. BICKS:**

3           **Q.** This is a graphic that you're familiar with, Mr. Civjan?

4           **A.** Yes.

5           **Q.** And it talks about the ecosystem opportunities for mobile.

6           **A.** Yes.

7           **Q.** Can you explain to our jury -- I think I asked you about  
8 the Java-labeled handsets. Who were those customers up at the  
9 top there, Nokia, Sharp?

10          **A.** Well, those are customers that licensed Java ME and  
11 Java SE for smartphones or cell phones. You know, all phones  
12 period. So Samsung, Motorola, LG. What we did on a chart like  
13 this was we would put some of the marquee names and we would  
14 try to cover the various geographies, but we, in reality, were  
15 in pretty much every manufacturer, every phone that was coming  
16 out, as you saw 85 percent, so people like RIM and SavaJe and  
17 Danger are not here, but this is an example of people who had  
18 licenses and were shipping our technology.

19          **Q.** So what I think you are saying is that this has a list of  
20 companies at the top, but does it exclude -- include every  
21 company?

22          **A.** Absolutely, yes. It was an example.

23          **Q.** And so, for example, what are the companies that are not  
24 on there that Sun had licenses with?

25          **A.** Well, RIM, SavaJe, BlackBerry, as I said, Panasonic, Sony.

## CIVJAN - DIRECT / BICKS

1 There was lots of companies.

2 Q. And then you see at the bottom here, the 180-plus  
3 carriers. Can you describe what that is referring to for us?

4 A. So carriers are -- they're the providers, so in U.S., it's  
5 ATT, Sprint, T-Mobile, etc. So the same thing. The carriers  
6 were offering Java services and they were selling the Java  
7 phones, and so what this says on the bottom is, again, it's an  
8 example of some of the key names of the carriers in various  
9 geographies that we would show, but the statement is -- you  
10 know, we were in over 180 carriers around the world that were  
11 selling Java phones and offering Java services at this point in  
12 time.

13 Q. Uh-huh. 6.5 million developers off to the right. What is  
14 that referring to and why is it important?

15 A. Well, we worked really hard to cultivate a developer  
16 community for Java because when you have a platform, the key is  
17 to have applications so people want to use it. And so we  
18 invested heavily to develop a large developer community. And  
19 so at that point in time, we had over six and a half million  
20 developers writing Java applications.

21 Q. And how successful, if at all, was Sun in licensing the  
22 Java platform into the mobile phone market?

23 A. Extremely successful. As I said, we were in over 85  
24 percent of the market. We were pretty much ubiquitous.

25 Q. And how would you characterize the team that you had

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1 working with you?

2 **A.** I had a great team. It was -- we had tenure, which in our  
3 industry is pretty short usually, but the tenure on my team was  
4 seven to eight years. The people were really smart, really  
5 technical, very dedicated to what they did. We loved what we  
6 were doing. It was a lot of fun to create something like this.  
7 It was a great team.

8 **Q.** Are you familiar with a company called Danger?

9 **A.** Yes, I'm.

10 **Q.** And did you execute a license agreement with Danger?

11 **A.** Yes, I did.

12 **Q.** Trial Exhibit 1026 should be in your folders there. Can  
13 you take a look at that?

14 **A.** Yes.

15 **Q.** Is that a license agreement you signed yourself, sir?

16 **A.** Yes, it is.

17 **Q.** All right.

18 I would move it into evidence.

19 **MR. RAGLAND:** No objection.

20 **THE COURT:** 1026 is in.

21 (Trial Exhibit 1026 received in evidence)

22 **BY MR. BICKS:**

23 **Q.** Mr. Civjan, is this a stand license?

24 **A.** Well, this is a standard license for compliance, so it  
25 licenses the JME technology to Danger to use in their cell

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1 phones, but we were really aggressive about finding people that  
2 were shipping our technology without a license. And -- and  
3 what we would do in that case, like Danger, we found that they  
4 were shipping it and so we worked with them to have a  
5 compliance period where they could sort of have time to change  
6 the engineering and develop their product with the proper  
7 technology, with a license, pass the TCK so it was compliant,  
8 and then ship and pay royalties, so this is that sort of  
9 license. It's a compliance-oriented lines.

10 **Q.** Explain to us the compliance issue that you were speaking  
11 of. Did that come up from time to time?

12 **A.** Yes, it did. I mean, people -- Java you could download  
13 and use for research and development in the marketplace for  
14 free, but you couldn't ship it commercially without a  
15 commercial license, so people would sometimes do products,  
16 research and development, make a product, and then they would  
17 get a license, pass the TCK, which was really important because  
18 the *write once/run anywhere* was the promise of Java which you  
19 could write it on the Java platform and run it on any device  
20 that was running Java. So we would then have them become  
21 compliant, pass the TCK, and then pay royalties, as they  
22 should, for our technology.

23 **Q.** And how would you characterize Sun's and your team's  
24 attitude toward making sure that compliance happened?

25 **A.** Oh, we were aggressive. We were always looking for, you

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1 know, people that were noncompliant. Sometimes -- most of the  
2 time I think it was by accident. They didn't realize they had  
3 to have a license; sometimes, you know, otherwise.

4 Q. And did you also execute a license with Nokia?

5 A. Yes, I did.

6 Q. And if you know, what Java product did Nokia license from  
7 Sun?

8 A. They licensed Java ME, Java SE for their phones.

9 Q. Let me go back, sir, to 9133.1, page 3. I want to speak  
10 with you for a moment about the products that Java was used in.

11 You see here this refers to mobile devices, TV devices,  
12 Blue-ray players, Java cards, and desktops. Can you share with  
13 us, sir, the products that Java was used in during this time  
14 period.

15 A. Well, we were -- Java was used in pretty much everything  
16 that connected to the Internet at the time. So we were in  
17 smart meters. We were in PDAs. We were in cell phones. We  
18 were in set-top boxes. We were in TV's. We were on the  
19 desktop in computers. We were in E-readers. We were in VoIP  
20 phones with Cisco. We were in, geez, everything. Point of  
21 sale terminals. We were in printers. We were in the  
22 Playstation 3. We were in gaming machines. Everything that  
23 wanted to connect to the Internet was pretty much running Java.

24 Q. And we picked out 5887.1, which was a pared-down version  
25 of an exhibit that I just wanted to have you look at.



## CIVJAN - DIRECT / BICKS

1       You're familiar with this and the products that are  
2 indicated?

3       **A.**    Yes, I am.

4               **MR. BICKS:**   And, Your Honor, I would like to display  
5 this just to walk through a couple products --

6               **MR. RAGLAND:**   Your Honor, Your Honor.   This was  
7 created 10 months after this witness left the company.   I think  
8 there is no foundation.   It's also hearsay.

9               **MR. BICKS:**   It's a --

10       **Q.**    You're familiar with the products on there as containing  
11 Java?

12       **A.**    Yes, I am.   I mentioned most of these.   Yeah.   We were,  
13 you know, in routers, switches, computers.

14               **THE COURT:**   Just verbalize it.

15               **THE WITNESS:**   Yeah.

16               **THE COURT:**   You can go through it without -- if he can  
17 testify from memory, but let's not use an exhibit that was not  
18 his at the time.

19               **MR. BICKS:**   Fair enough.

20               **THE WITNESS:**   I'm pretty --

21               **MR. BICKS:**   That's fine.

22       **Q.**    Cars are on here?

23       **A.**    We were in cars for sure.   We were in automobiles.   We  
24 worked with Toyota.   We worked with BMW.

25       **Q.**    Fair enough.

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1 Now, we have a timeline over here, Mr. Civjan, which  
2 refers to November 2007 as the time where Google released  
3 Android. Are you generally familiar with Android and its  
4 release?

5 **A.** Definitely.

6 **Q.** And the jury has heard about a statement by Mr. Schwartz  
7 on a blog. Are you generally familiar with that?

8 **A.** Yes, I am.

9 **Q.** And at the time, did you have general knowledge about it?

10 **A.** Yes, I did.

11 **Q.** And to what extent, if at all, were the statements in that  
12 blog consistent with your view of the Android situation?

13 **THE COURT:** Just a second. He was still at the  
14 company?

15 **MR. BICKS:** Correct.

16 **MR. RAGLAND:** Your Honor, object. Relevance. Object.  
17 He is not disclosed on public statements by the company  
18 relating to these issues.

19 **THE COURT:** What was he disclosed on?

20 **MR. BICKS:** He is disclosed on everything from Java  
21 licensing to harm caused by Android. And, Your Honor, we had  
22 discussion about an exhibit that he was on that I was going to  
23 use, and I'm trying to go around the question about the  
24 exhibit.

25 **THE COURT:** Objection overruled. Please go ahead.

## CIVJAN - DIRECT / BICKS

1 **BY MR. BICKS:**

2 **Q.** Let me say the question again because -- to bring us back.

3 To what extent, if at all, were the statements in  
4 Mr. Schwartz's blog consistent with your view of the Android  
5 situation?

6 **A.** Well, as I recall, the blog -- the blog was a PR sort of  
7 marketing thing that we did or that Jonathan did, and it  
8 basically said that Java -- you know, Google was releasing Java  
9 on Linux operating system, and the blog said, you know, that's  
10 great. We're glad to have more people joining the Java  
11 community.

12 But internally, you know, there were discussions going on  
13 with Google to license the technology, and also internally we  
14 were putting together a lot of information, especially my  
15 group, in terms of Android and what the impact was of Android  
16 and what it was doing to our business.

17 And our position was -- and we talked to customers about  
18 this, too -- that Android was using Java and Java was not  
19 licensed by Google and Sun had spent over a billion dollars in  
20 R&D and we took our IP very seriously and we had every  
21 intention to enforce our IP rights, and we needed to get Google  
22 to license the technology or to stop shipping it, and those  
23 were the kinds of things we talked about a lot in the company.

24 **Q.** Was that something that you also shared with customers?

25 **A.** Yes, we did.

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1 **Q.** And can you tell us what you said to customers on that  
2 topic.

3 **MR. RAGLAND:** Objection, Your Honor. Hearsay.

4 **MR. BICKS:** What he said, Your Honor.

5 **MR. RAGLAND:** Still hearsay, Your Honor.

6 **THE COURT:** Well, it would be hearsay, but it would  
7 be -- haven't you already answered that question in the long  
8 answer you just gave?

9 **THE WITNESS:** Sorry.

10 **THE COURT:** Overruled. I think it's admissible for  
11 the -- to show that communications of this type were actually  
12 made in the marketplace. So for that purpose, it's not  
13 hearsay.

14 Go ahead and ask the question.

15 **BY MR. BICKS:**

16 **Q.** The question, sir, is what did you say to customers about  
17 Android?

18 **A.** Well, our customers -- we were under nondisclosure  
19 agreements with our customers.

20 **THE COURT:** Just answer the question instead of giving  
21 a speech.

22 **THE WITNESS:** I'm sorry, I'm sorry.

23 So we would tell the customers that Android is Java and  
24 we -- and Google did not have a license for Java and therefore  
25 they should consider that and the risk associated with that if

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1 they ship it.

2 **BY MR. BICKS:**

3 **Q.** Obviously the -- did the topic of Android come up in  
4 dealing with your customers?

5 **A.** Yes, it did, a lot.

6 **Q.** And to what extent, if at all, did Android impact your  
7 Java licensing business?

8 **A.** It had a huge impact.

9 **Q.** And can you describe to our jury the impact that Android  
10 had on your licensing business.

11 **A.** Well, Android was very -- came on very quickly, very  
12 strong. It was free. We were licensing for royalties, and it  
13 was being adopted in terms of new design wins for phones across  
14 the board and displacing Java on those phones and having a  
15 massive impact very quickly.

16 **Q.** In what geographic markets, if any, did you see this  
17 impact?

18 **A.** Across the world. So manufacturers of phones in  
19 Europe -- Motorola in U.S., Sony Ericsson in Europe. You know,  
20 all the Asian manufacturers that we -- Samsung, etc., so it was  
21 all over the world.

22 **Q.** And if you look back, Trudy, if we can go to 9133.1.

23 Can you go to the page that was the ecosystem page. And  
24 you see up at the top here, sir, we talked about these were  
25 companies that you had licensing deals with.

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1     **A.**    Yes.

2     **Q.**    And can you tell our jury the impact of Android on those  
3     licensing deals?

4     **A.**    Well, Android -- so basically Android was -- or Google was  
5     talking to our customers. Our customers were switching to  
6     Android in various degrees, some very quickly, and they were  
7     switching developers from Java to Android. They were switching  
8     phone designs from Java to Android.

9           And so the impact was, you know, less design wins, less  
10    future volumes, and less future revenue as they moved to  
11    Android instead of Java.

12    **Q.**    And what impact, if at all, was there on your licensing  
13    revenues because of Android?

14    **A.**    Well, they were going down because they were displacing us  
15    in the phones or they were causing us to drop price to stay in  
16    the phones because they were free. They had a different  
17    business model.

18    **Q.**    And explain to our jury the impact on price because of  
19    Android.

20    **A.**    Well, we had to lower the price per unit for phones  
21    because in negotiations, they said well, we could ship, you  
22    know, Android for free, which basically is Java on Linux, and  
23    so why should we pay you, and, you know, we want it cheaper,  
24    and we'd have to drop price.

25    **Q.**    And can you describe for us, if at all, how serious of a

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1 problem this was for you.

2 **A.** It was huge. It was devastating to our business.

3 **Q.** And did you continue to try to license the Java platform  
4 after the release of Android?

5 **A.** Yeah. That was our job as a group and a team, and we  
6 aggressively continued to license as much as we possibly could.

7 **Q.** And what impact, if any, did Android have on those  
8 continued licensing efforts?

9 **A.** Well, as I said, they displaced us in design wins so we  
10 got less phone design wins within companies as they used  
11 Android instead of Java, and also we got less revenue for  
12 whatever phones we still won or kept because there was price  
13 pressure and renegotiations of contracts as a result of Android  
14 being free.

15 **Q.** And if you look, for example, in Asian markets, from time  
16 to time, did you have to project losses because of the impact  
17 of Android?

18 **MR. RAGLAND:** Objection, Your Honor. Leading.

19 **THE COURT:** It is leading. You've done a very good  
20 job of not leading the witness, but here you are leading the  
21 witness. Sustained.

22 **BY MR. BICKS:**

23 **Q.** Did you at any time, if at all, perform any projections  
24 about the impact of Android revenues?

25 **A.** We did a lot. Basically I put together presentations on a

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1 regular basis to tell senior executives at Sun and then Oracle  
2 about the impact of Android, and I would collect the data from  
3 my team globally, from customers directly, and we would project  
4 the losses, so, yes, we did that regularly.

5 **Q.** And can you describe for the jury the projections that you  
6 saw and were involved in preparing. What did they show?

7 **A.** Well, there was, you know -- we would show things like  
8 certain companies that were moving to Android, like HTC was an  
9 early adopter, Motorola, Sony Ericsson. We'd would show that  
10 they were going to have 50 or 60 percent of their phones be  
11 Android in the following year instead of Java.

12 We would show like an A-pack just China, Korea -- I  
13 remember this was -- it was China, Korea, and Taiwan each had a  
14 projection of \$45 million of lost revenue over the three-year  
15 period. So we had data like this consistently, and it's in  
16 presentations I'm sure you guys have.

17 **Q.** You A-pack. What is A-pack?

18 **A.** That's Asia. With -- A-pack for me -- I ran Japan  
19 separately, so A-pack was Asia without Japan. So primarily the  
20 market for us in Asia was Korea, China, and Taiwan.

21 **Q.** And on those A-pack markets, what, if any, impact did  
22 Android have on your business?

23 **A.** Well, the manufacturers were all moving to Android, and as  
24 I said, for that particular region, there was a \$45 million  
25 projected loss for a three-year period and we were losing



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1 design wins and revenue.

2 Q. And you say *losing design wins*. Can you share with our  
3 jury what you mean by that?

4 A. Well, design win is -- when somebody is making a new phone  
5 or a new anything, you know, all of the devices I mentioned,  
6 they decide what they're going to put on it, and they'll pick  
7 an operating system, they will pick a platform like Java to run  
8 on the operating system. And so that new design win is an  
9 engineering decision, and once it's made, that device, that  
10 phone, will ship with that decision.

11 And so when we lost the design win, instead of Java on  
12 that phone, they're going to use Android on that phone, and  
13 therefore we were displaced.

14 Q. Take a look, sir, if you would, on 4108, Exhibit 4108.1.

15 A. Point one?

16 Q. Yes. It's a spreadsheet. I think I have it on your  
17 screen because it's a PDF document.

18 MR. RAGLAND: Your Honor, we don't have 4108.1. We  
19 don't have that.

20 MR. BICKS: Here.

21 Q. Do you see that on the screen?

22 A. I don't have anything on the screen.

23 THE COURT: It's not on the screen.

24 THE WITNESS: I have a 4108 in a folder.

25 MR. BICKS: Let me get mine, the hard copy.

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1           **MR. RAGLAND:** I'll need a copy.

2           **BY MR. BICKS:**

3           **Q.** This is 4108.1.

4           **A.** Okay. Here is 4108. Okay.

5           **Q.** Good. Do you have it?

6           **A.** Yeah.

7           **Q.** Are you familiar with it?

8           **A.** Yes. This -- yes, I am. This is a revenue projection  
9 that would be produced generally by the product group.

10          **Q.** This is information that's prepared in your group as part  
11 of regular course of business?

12          **A.** Well, this would be -- this is -- this is the projection  
13 for revenue that would be prepared primarily by the product  
14 group and engineering group with sales in reviewing and  
15 inputting, but they own the document.

16          **Q.** This is something that you're familiar with when you  
17 were in your business --

18          **A.** Absolutely.

19          **Q.** Tended to be accurate projections and so forth?

20          **A.** Yeah. These were the projections of record.

21           **MR. BICKS:** I would move this into evidence.

22           **MR. RAGLAND:** Objection, Your Honor. Hearsay. There  
23 is also no date on the document, and it also lacks foundation.

24           **THE COURT:** Just a minute. First, let's be clear.

25 You have used two different numbers. Which one are you looking

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1 at, Mr. Witness?

2 **THE WITNESS:** I'm looking at what he put in front of  
3 me.

4 **MR. BICKS:** 4108.

5 **THE COURT:** Look at the one that has the label.  
6 That's the one that goes to the jury room.

7 **THE WITNESS:** Okay.

8 **THE COURT:** Tell us what the label says is the exhibit  
9 number.

10 **THE WITNESS:** Oh, this says 4108.

11 **THE COURT:** All right. So not 4108.1. Just 4108.  
12 All right.

13 And is that the one you intended to move into evidence?

14 **MR. BICKS:** Yes.

15 **THE COURT:** And what is the time period of that  
16 document?

17 **THE WITNESS:** This is -- FY '07 actuals and then FY  
18 '08, '9 and '10 forecast, it looks like. And so this would  
19 have been --

20 **THE COURT:** Was this done back at the time --

21 **THE WITNESS:** This would have been done in 2000 --

22 **THE COURT:** -- in the ordinary course of business?

23 **THE WITNESS:** Oh, absolutely, yes.

24 **THE COURT:** By your group?

25 **THE WITNESS:** It was -- our group was involved heavily

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1 in putting this together, but the document -- this forecast was  
2 owned by product management.

3 **THE COURT:** Let me see.

4 **THE WITNESS:** It's a sales forecast basically.

5 **MR. RAGLAND:** Your Honor, the objection stands. It  
6 was done by a different department. There is no testimony that  
7 he was involved in preparing this document --

8 **THE WITNESS:** I was involved --

9 **MR. RAGLAND:** -- when this document was actually  
10 compiled.

11 **THE WITNESS:** I was involved in this. I said I was.

12 **THE COURT:** Here we go. 4108 is received in evidence.  
13 (Trial Exhibit 4108 received in evidence)

14 **BY MR. BICKS:**

15 **Q.** All right. Now, Mr. Civjan, you're a consultant today?

16 **A.** Yes.

17 **Q.** And we retained you to spend time to come -- be prepared  
18 to testify?

19 **A.** Yes.

20 **Q.** And we haven't compensated you to be on this stand or  
21 anything like that?

22 **A.** No.

23 **Q.** All right. Can you tell us, sir, in one word the impact  
24 of Android on Java?

25 **A.** It was devastating.

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1 Q. And how, if at all, did Android affect the morale at Sun  
2 and then Oracle?

3 A. It was a huge hit to morale. I was on the original Java  
4 team --

5 THE COURT: Wait. Wait. His answer was unclear. You  
6 said, *We haven't compensated you to be on the stand or anything*  
7 *like that*. So let's be clear. Have you been paid anything by  
8 anybody in this case?

9 THE WITNESS: I have been paid for my time in terms of  
10 opportunity costs like reviewing documents and things like  
11 that. For my consulting.

12 THE COURT: Who paid you?

13 THE WITNESS: Pardon me?

14 THE COURT: Who paid you?

15 THE WITNESS: Orrick, but not for testifying.

16 THE COURT: So you are drawing a distinction between  
17 before you came to court to testify versus your testimony  
18 today. You are not being paid for your time to testify?

19 THE WITNESS: Correct.

20 THE COURT: But before that, you were paid?

21 THE WITNESS: Yes, I was.

22 THE COURT: All right. So that's fair. Okay. It was  
23 the phrase *or anything like that* that threw me.

24 MR. BICKS: All right. Thank you.

25 THE COURT: I interrupted you in the middle of a

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1 question about devastating impact. Go back to that.

2 **THE WITNESS:** Could you repeat the question?

3 **THE COURT:** Mr. Bicks will ask it again.

4 **BY MR. BICKS:**

5 **Q.** Just tell us the impact of Android on the morale of your  
6 team.

7 **A.** So, yeah -- so I was on the original team at Java in 1995,  
8 and we built it from the ground up, and I have a lot of pride  
9 in that, frankly. And, you know, Android was Java on Linux or  
10 is Java on Linux and was taking our customers, our revenue, and  
11 killing our business, and it was devastating to me personally  
12 and my team because we put our heart and soul into making this  
13 as successful -- I mean, you guys have probably all heard of  
14 Java and it's a huge success story in the industry, and it was  
15 hijacked. You know, they took our technology and they gave it  
16 away for free and they took our customers, and it was  
17 devastating.

18 **Q.** Thank you, sir.

19 **THE COURT:** All right. We will go to  
20 cross-examination.

21 **MR. RAGLAND:** Thank you, Your Honor.

22 **THE WITNESS:** Do I just leave this?

23 **THE COURT:** Leave those there for now, and they will  
24 collect them up when you're gone. Okay. Are you ready?

25 **MR. RAGLAND:** Yes, Your Honor.

## CIVJAN - CROSS / RAGLAND

CROSS-EXAMINATION

BY MR. RAGLAND:

Q. Good morning, members of the jury. I'm Steven Ragland, a lawyer for Google. I am playing myself today. I will try to get the lines right.

Good morning, Mr. Civjan.

A. Good morning. How are you?

Q. Civjan; is that correct?

A. Civjan, yes.

Q. Mr. Civjan, on direct examination, you referred to Oracle licensing Java SE to Nokia for a phone. Do you recall referring to that?

A. Uh-huh.

Q. You know, don't you, Mr. Civjan, that Nokia never actually put Java SE into a phone, don't you?

A. I am not sure honestly because I left, you know, the company, so I'm not sure what they have done since. Java -- yeah. So I don't know if they did it, honestly.

Q. You know who Michael Ringhofer is; right?

A. He used to work for me in sales.

Q. He was the vice-president of global sales when you were at Sun; correct?

A. No.

Q. After you left, he became vice-president of global sales?

A. I don't know.

## CIVJAN - CROSS / RAGLAND

1 **Q.** But he worked with you in sales; right?

2 **A.** He was a sales guy, yeah.

3 **MR. RAGLAND:** Your Honor, I would like to read from  
4 Mr. Ringhofer's deposition, March 31, 2016. Page 37, lines 25,  
5 to page 38, line 19.

6 **MR. BICKS:** Your Honor, is this appropriate for a  
7 nonparty witness?

8 **MR. RAGLAND:** Your Honor, he is party aligned. He's  
9 been paid by Oracle.

10 **THE COURT:** Is this a party admission deposition under  
11 Rule 32?

12 **MR. RAGLAND:** Yes, it is.

13 **THE COURT:** Well, then, it's permissible to interrupt  
14 the testimony of this witness for a short read-in from somebody  
15 else as foundation to ask him a question about it. That's  
16 fine.

17 Read in the testimony. But tell the jury who the person  
18 is and what the date of the deposition was.

19 **MR. RAGLAND:** It was Michael Ringhofer, vice president  
20 of global sales for Oracle. Deposition was March 31st, 2016.  
21 Starting on page 37, line 25:

22 **"Q.** Have you ever reviewed the license between Sun and  
23 Nokia?

24 **"A.** I have seen that, yes.

25 **"Q.** And that is a license for Java SE and ME?



## CIVJAN - CROSS / RAGLAND

1       **"A.** They had an opportunity, yeah. They purchased ME,  
2       and they had an option to also get -- yeah, to get SE at  
3       an additional price. So, yes.

4       **"Q.** I'm sorry. You said they had the option to purchase  
5       Java SE; is that right?

6       **"A.** If they used it, they would pay a higher fee. They  
7       never paid it. So I don't think they actually brought a  
8       product to market.

9       **"Q.** So Nokia never actually used Java SE in a mobile  
10      phone; correct?

11      **"A.** I don't know if they every used it. My understanding  
12      is they didn't ship one.

13      **"Q.** They did not ship one?

14      **"A.** They did not ship one."

15      **BY MR. RAGLAND**

16      **Q.** You also, Mr. Ringhofer, referred to BlackBerry as a Java  
17      licensee and referred to it as a smartphone. Do you recall  
18      talking about that?

19      **A.** I'm not Mr. Ringhofer.

20      **Q.** I'm sorry. Mr. Civjan.

21      On your direct you mentioned BlackBerry as a Java --

22      **A.** Yeah.

23      **Q.** -- right?

24      You know that RIM's BlackBerry device, that wasn't a  
25      Java-based operating system; right?

## CIVJAN - CROSS / RAGLAND

1     **A.**    Java is not an operating system.   Java is a platform.

2            Can I --

3     **Q.**    The way it works is I ask questions.

4     **A.**    Yeah, yeah.

5     **Q.**    So thanks.

6            **THE COURT:**   Maybe.   I get to interrupt.

7            (Laughter)

8            **THE COURT:**   Let's hear what the next question is.

9            Let's hear what the question is.

10           **THE WITNESS:**   Yeah, I just had a comment on Ringhofer,  
11            yeah.

12           **MR. RAGLAND:**   I ask questions.   And the Judge gets to  
13            do whatever he wants.

14            (Laughter)

15           **THE COURT:**   All right.   Well, ask the next question.

16           **MR. RAGLAND:**   Certainly, Your Honor.

17     **BY MR. RAGLAND**

18     **Q.**    You mentioned discussions between Sun and Google.   You  
19            referred to discussions in -- I believe in 2005-2006 --

20           **THE COURT:**   Wait a minute.   Wait a minute.   Before you  
21            leave -- are you about to leave BlackBerry?   I don't think we  
22            got a clear-cut answer on that.   So I want to follow up.

23            Are you saying that Java was used somehow in the  
24            BlackBerry device, but it was not an operating system?   It was  
25            unclear what you were trying to say.

## CIVJAN - CROSS / RAGLAND

1           **THE WITNESS:** So Java was definitely used in the  
2 BlackBerry. Java was used on a lot of phones --

3           **THE COURT:** No, no. We're just talking about  
4 BlackBerry. No speeches now. Come on.

5           **THE WITNESS:** Yes, the answer is Java was used on the  
6 phone. The BlackBerry phone.

7           And I assume people have explained what Java is, but Java  
8 runs on top of an operating system. It's not an operating  
9 system.

10           **THE COURT:** All right. Okay. Great.  
11 Next question.

12 **BY MR. RAGLAND**

13 **Q.** The BlackBerry devices ran the Windows mobile operating  
14 system; right? You know that.

15 **A.** Say again.

16 **Q.** BlackBerry used a Windows mobile operating system. You  
17 know that; right?

18 **A.** I'm not sure, honestly.

19 **Q.** But you know it was not a Java operating system?

20 **A.** Java is not an operating system. It's a platform that  
21 sits on an operating system.

22 **Q.** You referred in your direct examination about discussions  
23 between Google and Sun, related to a collaboration; right? You  
24 recall talking about that?

25 **A.** Sun was talking to Google, yes.

**CIVJAN - CROSS / RAGLAND**

1 **Q.** Right. You weren't involved with one-on-one discussions  
2 with Google; right?

3 **A.** No.

4 **Q.** You never met with Mr. Schmidt --

5 **A.** No.

6 **Q.** -- in relation to that; right?

7 **A.** Not in that context, no. He ran the Java team when I  
8 joined it.

9 **Q.** But you did, on occasion, receive an update, perhaps, on  
10 that, an email, for example?

11 **A.** Yes. I would get updates.

12 **MR. RAGLAND:** May I approach, Your Honor?

13 **THE COURT:** Yes.

14 **BY MR. RAGLAND**

15 **Q.** Please take a look, Mr. Civjan, at what's been marked  
16 TX 2436.

17 Do you recognize this as an April 18, 2006, email from you  
18 to Vineet Gupta, concerning the discussions at that time  
19 regarding Google and Sun?

20 **A.** Yes, I do.

21 **MR. RAGLAND:** Offer Exhibit 2436 into evidence, Your  
22 Honor.

23 **MR. BICKS:** No objection.

24 **THE COURT:** Received.

25 (Trial Exhibit 2436 received in evidence.)

## CIVJAN - CROSS / RAGLAND

1 (Document displayed.)

2 **BY MR. RAGLAND**

3 **Q.** Take a look at this, please. Mr. Gupta -- I'm sorry.

4 Mr. Civjan --

5 **THE COURT:** Anyone ever accused you of having multiple  
6 personalities?

7 (Laughter)

8 **BY MR. RAGLAND**

9 **Q.** Mr. Civjan, if you could take a look, please. This is an  
10 email to you -- or from you to Mr. Gupta on April 16th, 2006.

11 Mr. Gupta was someone who worked for you; right?

12 **A.** Yes, he did. He was my CTO and ran my sales engineers.

13 **Q.** And in the first sentence Mr. Gupta writes, "The make or  
14 break it number from Google is 28 million for 3 years, no  
15 revenue share. Alan has approved it."

16 Do you see that?

17 **A.** Yes, I do.

18 **Q.** And Mr. Gupta refers to "Alan." You understand that to be  
19 Alan Brenner?

20 **A.** Yes.

21 **Q.** And you replied, "Understood tx." That means thanks;  
22 right?

23 **A.** Yes.

24 **Q.** "Keep going on this with Alan."

25 That's what you said to Mr. Gupta; right?

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1     **A.**    In the email, yes.

2     **Q.**    Now, as -- as Sun and then Oracle's vice president of  
3     worldwide sales, you knew that open sourcing Java through  
4     OpenJDK could reduce the company's competitive advantage from  
5     licensing the software, didn't you?

6     **A.**    It didn't really impact the business.

7     **Q.**    Well, you -- you knew that it was Sun's strategy to build  
8     relationship with the open source community of developers to  
9     stimulate demand for commercial products that Sun sold; right?

10    **A.**    Say that again.

11    **Q.**    Sure.

12            You were aware that it was Sun's strategy to open source  
13    Java in order to build relationships with a community of  
14    developers and stimulate demand for Sun's commercial products.  
15    You were aware of that strategy, weren't you?

16    **A.**    Well, open source is a complicated issue.

17    **Q.**    Mr. Civjan, I'll ask you to just answer my question and  
18    not give a speech.

19    **A.**    I'm trying to.

20            **THE COURT:** Can you answer --

21            **THE WITNESS:** It's not a yes or no answer.

22            **THE COURT:** He says he can't answer it yes or no.

23    **BY MR. RAGLAND**

24    **Q.**    You were part of discussions concerning how Sun's decision  
25    to open source Java would be received by companies like Nokia

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1 and IBM and Sony Ericsson, weren't you?

2 **A.** There were discussions around open sourcing Java in the  
3 Java community and a lot of customers and companies, yes.

4 **Q.** Sure.

5 Do you have before you, Mr. Civjan, what's been marked as  
6 Exhibit 1026? That's the -- you were shown that on direct, the  
7 document related to Danger.

8 **A.** Oh, the Danger contract?

9 **Q.** Yes.

10 **A.** Yes.

11 **Q.** Would you please take a look at that. Would you please  
12 turn to page 7 of the exhibit. You'll see there's numbers at  
13 the bottom. It says what page the exhibit is.

14 **A.** Page 7, yeah.

15 **Q.** Correct.

16 **MR. RAGLAND:** And if we could please highlight on the  
17 page, there's a reference to "Licensed Software 1." Correct.  
18 Right.

19 **BY MR. RAGLAND**

20 **Q.** Do you see where it says, "Licensed Software 1: CLDC  
21 TCK-only"? Do you see that?

22 **A.** Yes.

23 **Q.** What is the CLDC? What does that stand for?

24 **A.** CLDC is one of the variants of Java ME.

25 **Q.** Java ME. That's the Micro Edition; right?

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1 A. Yes.

2 Q. And the TCK, that's the Technology Compatibility Kit;  
3 right?

4 A. Yes.

5 Q. If you look further down the page, there's a reference to  
6 "Licensed Software 2." Do you see that?

7 A. I'm looking.

8 Q. It's near the bottom.

9 A. Yes.

10 Q. And that says, "Licensed Software 2: MIDP TCK-only."

11 A. Right.

12 Q. And MIDP, what is that?

13 A. MIDP? It's -- it's -- it's a -- it's a JME technology.

14 THE COURT: I didn't hear you.

15 THE WITNESS: I'm sorry. It's a Java ME technology.

16 THE COURT: Java ME. Okay.

17 BY MR. RAGLAND

18 Q. And could you also look at, a little further up on the  
19 page there's a reference to "Platform 1 Solaris." Do you see  
20 that?

21 A. Yes.

22 Q. And Solaris is an enterprise operating system; right?

23 A. Yes.

24 Q. It has nothing to do with mobile devices; correct?

25 A. Correct. This is an executive summary. This isn't a



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1 contract.

2 Q. Mr. Civjan, if you could please wait for a question.

3 A. Oh, I'm sorry.

4 Q. I would appreciate it. Thank you very much.

5 And could you turn to the next page, please, page 8. And  
6 if you could take a look at about 6 lines down on the page, it  
7 says, "Has trademark license been executed?"

8 Do you see that?

9 A. Yes, I do.

10 Q. And it says "Yes"; right?

11 A. It does.

12 Q. So that shows that Danger was getting a license to Java  
13 trademark; right? The coffee-cup logo and things like that;  
14 correct?

15 A. This is an executive summary. So it says they had done  
16 that. It doesn't mean this is a contract for that.

17 Q. And could you please now turn to page 18 of the document.  
18 And now I'm going to reference you to page 18 and 19, sort of,  
19 together. But we start at 18.

20 Do you see where it says "Technology" at number 23 on that  
21 page?

22 A. Yes.

23 Q. And it defines technology as the technology described in  
24 Attachment B; right?

25 A. Yes.

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1 Q. If you could turn to the next page.

2 A. Uh-huh.

3 Q. Do you see where it's Attachment B at the bottom?

4 A. Yes.

5 Q. And that says "Java 2 Platform, Micro Edition, Connected  
6 Limited Device Configuration."

7 A. Yes.

8 Q. That's the CLDC of Java ME; right?

9 A. Yes.

10 Q. And underneath there it also says, "Java 2 Platform, Micro  
11 Edition, Connected Limited Device Configuration." Do you see  
12 that?

13 A. Yes, I do.

14 Q. So these -- this is a Java ME license; right?

15 A. Yes, it is.

16 Q. Mr. Civjan, while you were at Sun, at least from 2006  
17 until Sun was acquired by Oracle in 2010, you reported to the  
18 CEO; correct?

19 A. No.

20 Q. Who did you report to?

21 A. A whole bunch of people.

22 Q. Okay. So there was some layers above you, between you and  
23 the CEO?

24 A. There was -- yes.

25 Q. Okay. So you reported to someone else, who then reported

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1 to the CEO; right?

2 A. No.

3 Q. Okay. So how many layers were there between you and the  
4 CEO at Sun?

5 A. At Sun I reported to -- there would be two people between  
6 me and the CEO.

7 Q. You worked at Sun, and then Oracle until February 2011;  
8 correct?

9 A. It was 2011. I think it was February, yeah.

10 Q. And that entire time you were in sales?

11 A. I was running the Java sales team. Well, OEM software  
12 sales. We had a lot of technologies --

13 Q. You were running the Java sales team?

14 A. I was trying to answer your question.

15 Q. I think you did.

16 A. It was, I ran -- we ran a software sales team, which  
17 included Java. But it also had other technologies. Java was  
18 the primary technology.

19 Q. And starting in 2003, you were the vice president of sales  
20 at --

21 A. That's correct.

22 Q. -- at Sun; right?

23 A. For software, OEM software sales, yes.

24 Q. And you had, in that role, revenue responsibility for all  
25 of Sun's software products; right?

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1     **A.**     No.

2     **Q.**     You didn't?

3     **A.**     No.

4             **MR. RAGLAND:**   May I approach, Your Honor?

5             **THE COURT:**    Sure.

6     **BY MR. RAGLAND**

7     **Q.**     Would you please take a look, Mr. Civjan, at what has been  
8     marked Trial Exhibit 7791.

9             Do you recognize that, Mr. Civjan?

10    **A.**     Looks like my LinkedIn profile.

11    **Q.**     And you prepared this LinkedIn profile?

12    **A.**     Uh-huh, yes.

13    **Q.**     Okay.

14             **MR. RAGLAND:**   Offer Exhibit 7791 into evidence, Your  
15    Honor.

16             **MR. BICKS:**    This wasn't disclosed, Your Honor.

17             **MR. RAGLAND:**   It's impeachment, Your Honor.

18             **THE COURT:**    Well, then, just read from the relevant  
19    part as -- if it's just for impeachment, that's the way you do  
20    it for impeachment.

21             So the way to do it is you point to the particular  
22    sentence and say, isn't it true that your resume said exactly  
23    the opposite of whatever it was that he said a moment ago.

24             (Laughter)

25             **MR. RAGLAND:**   All right, your Honor.

## CIVJAN - CROSS / RAGLAND

1 **BY MR. RAGLAND**

2 **Q.** If you could take a look, please, at page 2 of your  
3 LinkedIn profile.

4 **A.** Yeah.

5 **Q.** And if you look under the heading that says "Vice  
6 President Worldwide Sales."

7 **A.** Yes.

8 **Q.** Do you see that the first sentence there says, "Built and  
9 led global software licensing sales team of 135, with revenue  
10 responsibility for all of Sun's software products"? You see  
11 that, don't you?

12 **A.** I see where you're going here.

13 **Q.** Just answer my question, please.

14 **THE COURT:** You've got to answer whether you said that  
15 or not on your resume.

16 **THE WITNESS:** Yes, I did.

17 **THE COURT:** Okay. So there we go.

18 **BY MR. RAGLAND**

19 **Q.** All right. And isn't it true that during your entire time  
20 in your role at Sun you met or exceeded all of your quarterly  
21 revenue targets?

22 **A.** I don't know if it was every one but almost every one.

23 **Q.** Can you --

24 **THE COURT:** He gets to impeach you because you  
25 equivocated. Probably on your resume you say you always did

## CIVJAN - CROSS / RAGLAND

1 it.

2 (Laughter)

3 **MR. RAGLAND:** Bingo, Your Honor.

4 **THE COURT:** So go ahead and point out the phrase that  
5 you want to point out.

6 **BY MR. RAGLAND**

7 **Q.** If you could take a look, please, at the third paragraph  
8 down. Do you see where it says under -- on your LinkedIn  
9 profile that you prepared --

10 **A.** Yeah.

11 **Q.** -- it says, "Met or exceed all quarterly revenue targets"?

12 **A.** Yeah.

13 **Q.** "Growing revenue over 300 percent, to 370 million." You  
14 see that, don't you?

15 **A.** I do, yes.

16 **Q.** And you were the --

17 **THE COURT:** Wait. First, you've got to say you --  
18 that's in your resume; right?

19 **THE WITNESS:** Yes, I see it. From 2003 to 2010, yes.

20 **BY MR. RAGLAND**

21 **Q.** So all the way up through the date that Sun was acquired  
22 by Oracle, you met those targets; right?

23 **A.** Well --

24 **Q.** That's what this says?

25 **A.** No, it says from 2003. I was at Sun starting in '94.

## CIVJAN - CROSS / RAGLAND

1 Q. Okay. So between '94 and 2002, maybe your business wasn't  
2 doing as well as that, but by 2003 all the way up through 2010,  
3 you met or exceeded those goals; right?

4 A. Yes.

5 Q. You were at Oracle for about a year after the acquisition;  
6 correct?

7 A. Yes.

8 Q. And it's true, right, that during that year you achieved  
9 your all revenue goal in your work?

10 A. Honestly, I don't remember. I assume it says so.

11 (Laughter)

12 Q. Take a look, please -- that's a safe assumption,  
13 Mr. Civjan. Take a look, please, at the entry for GM and  
14 global vice president sales for Oracle.

15 Do you see that?

16 A. I do.

17 Q. And do you see in the first sentence it reads,  
18 "Responsible for leading global software and technology  
19 licensing sales via acquisition of Sun Microsystems"?

20 A. Uh-huh.

21 Q. "Including Java"?

22 A. Yes.

23 Q. Few other things.

24 A. Uh-huh.

25 Q. Okay.

1 And if you look down to the next-to-last sentence, do you  
2 see where it says that among your accomplishments is "Achieving  
3 all revenue goal of over \$330 million"? You see that; right?

4 **A.** Yes.

5 **Q.** Then you left Oracle in February 2011; right?

6 **A.** Yes.

7 **Q.** After you left, you did not have access to Oracle's  
8 competitive sales data, did you?

9 **A.** No.

10 **Q.** You had no role at all in Java licensing or sales for  
11 Oracle after February 2011, did you?

12 **A.** No.

13 **Q.** So you actually have no personal knowledge about how  
14 Oracle's Java SE business has done since February 2011, do you?

15 **A.** No.

16 **Q.** And you don't have any personal knowledge about how  
17 Oracle's Java ME business has done since that time either, do  
18 you?

19 **A.** No.

20 **MR. RAGLAND:** Pass the witness, Your Honor.

21 **THE COURT:** Okay. Any -- Mr. Bicks, your turn.

22 **MR. BICKS:** No questions, Your Honor.

23 **THE COURT:** No questions?

24 **MR. BICKS:** No questions.

25 **THE COURT:** All right. May our witness be excused and



1 discharged from the subpoena?

2 **MR. RAGLAND:** Yes, Your Honor.

3 **MR. BICKS:** Yes.

4 **THE COURT:** Great. Thank you, Mr. Civjan.

5 **THE WITNESS:** Civjan.

6 **THE COURT:** You have a great day. And thank you for  
7 coming.

8 (Witness excused.)

9 **THE COURT:** Can you -- how are you holding up there  
10 over in the jury box?

11 Can we get started on the next witness for maybe 15  
12 minutes before we take our break?

13 (Jurors respond affirmatively.)

14 **THE COURT:** All right. Let's do that.

15 Next witness.

16 **MS. SIMPSON:** Your Honor, Oracle calls Alan Brenner.

17 **THE COURT:** Okay.

18 **MR. RAGLAND:** We can clean those exhibits off of the  
19 stand.

20 **THE COURT:** Would you.

21 Brenner, is that it? Okay. Welcome, sir. Please raise  
22 your right hand.

23 **ALAN BRENNER, PLAINTIFF'S WITNESS, SWORN**

24 **THE CLERK:** Please state your full name for the Court,  
25 and spell your last name for the record.

**BRENNER - DIRECT / SIMPSON**

1           **THE WITNESS:** My name is Alan Brenner. My last name  
2 is spelled B-r-e-n-n-e-r.

3           **THE COURT:** Very good. Welcome, Mr. Brenner.

4           Would you -- you can adjust this up and down. It needs to  
5 go down a little bit for you. The last guy we had in here was  
6 quite tall. And so you need to pull it back a little closer to  
7 your voice. That's perfect.

8           Thank you. Go ahead.

9                           **DIRECT EXAMINATION**

10          **BY MS. SIMPSON**

11          **Q.** Good morning, Mr. Brenner.

12          **A.** Good morning.

13          **Q.** Could you tell the jury when you were employed by Sun.

14          **A.** I worked for Sun between 1997 and 2007.

15          **Q.** And what position did you hold at Sun?

16          **A.** My most recent position at Sun was senior vice president  
17 of the client systems group.

18          **Q.** And can you tell the jury a little bit about your job  
19 responsibilities in that role.

20          **A.** Yeah.

21               I was responsible for the Java ME platform and Sun's  
22 mobile strategy in general. I had several other product lines,  
23 as well, that faced end users.

24               My job scope included product development and product  
25 strategy, product management. Those sorts of functions.

**BRENNER - DIRECT / SIMPSON**

1 Q. When you left Sun, where did you go?

2 A. I went to Research in Motion. They're now called  
3 BlackBerry. I was there for about five years, from 2007 to  
4 2012.

5 Q. And how are you currently employed?

6 A. I'm currently a software development consultant, software  
7 development and product management consultant.

8 Q. I'm going to focus on the time period right before you  
9 left Sun. So at the end of 2006.

10 What was Java's market share in the mobile phone industry  
11 by the time you left Sun in 2006?

12 A. I estimate we were in about 80 percent of the phones  
13 shipping at the time.

14 Q. And based on your experience in the industry, and your  
15 role directing strategy for Sun, what was your view as to why  
16 Sun had such a dominant market share at that time?

17 A. Well, I think Java was attractive to the industry carriers  
18 in particular because it enabled downloadable applications,  
19 which was compelling.

20 It also had a very large -- we had developed a very large  
21 Java developer community. And the platform provided security  
22 features that were important to the adoption of downloadable  
23 apps.

24 Q. Take those one by one.

25 Let's start with the downloadable app. Can you tell me

1 why that was important?

2 **A.** Just like today, with current smartphones, downloadable  
3 apps were exciting for carriers. They could market that  
4 feature to their subscribers, to their users, which would  
5 extend the functionality of the phones that their customers  
6 were buying and the data plans that they were using.

7 So this was a very big deal, very exciting, very new for  
8 the time, and innovative. And they could use it to grow their  
9 business. So we were able to make that case to the carriers.

10 **Q.** And were you successful?

11 **A.** We were.

12 We convinced carriers to -- to bring this kind of  
13 technology to the market. They -- the approach we generally  
14 took was to secure adoption by one carrier.

15 For example, in the U.S. that would have been Sprint as  
16 the first. Once Sprint decided to bring downloadable apps to  
17 their devices, their competitors felt the need to follow suit.  
18 And we quickly applied that approach around the world. In the  
19 U.S., in Japan, Korea, Europe. It was very effective.

20 **Q.** What effect did that have on the OEMs or the original  
21 equipment manufacturers?

22 **A.** Well, once the carriers decided to adopt Java to enable  
23 downloadable apps, they would issue orders to their device  
24 manufacturers, which included the requirement for Java as a  
25 functional capability of the device that they were purchasing.

**BRENNER - DIRECT / SIMPSON**

1 Q. And then did you have business dealings with the original  
2 equipment manufacturer, the OEMs?

3 A. Once the manufacturers understood that to sell their  
4 products they had to have this capability, they would come to  
5 Sun to get a license for the technology.

6 Q. Let's talk a little bit about your second reason, the  
7 developer community. Can you tell me what you meant by that?

8 A. So Java began as a desktop and a enterprise technology.  
9 And by 2000, there were several million Java -- Java  
10 developers. And they quickly were able to learn to develop for  
11 the Java ME platform as well.

12 Q. And the third reason you mentioned, I believe, was  
13 security reasons. Can you explain that again. What was the  
14 security issue in the 2006 timeframe?

15 A. Yeah. In this time period, cell phones were built with  
16 proprietary operating systems from the device manufacturers.  
17 And these operating systems were relatively weak in security.

18 So if you wanted to add downloadable applications to  
19 devices at that point -- which the carriers very much did --  
20 those operating systems would have been exposed to, you know,  
21 being hacked in the same way that many desktop systems have  
22 been over the years by things like viruses, rogue applications  
23 that would be built to attack the device.

24 And carriers were concerned that that would subject their  
25 networks to risk or that the applications the phones were

1 carrying would be tampered with or the data lost.

2 So Java would give them a way to support downloadable apps  
3 but prevent those things from happening by using a technique  
4 called managed code. Using that technique, the applications  
5 would be prevented from using sensitive operating system  
6 functions like access to the network. And they would be  
7 prevented from accessing the data held by other apps. So it  
8 was a very effective security solution for the situation at the  
9 time.

10 **Q.** So as of the 2006 timeframe, when you were -- just before  
11 you left Sun, what was your view, if any, as to whether Sun's  
12 efforts to market Java for mobile devices had been successful?

13 **A.** Well, it had been extraordinarily successful. We were  
14 supported by hundreds of carriers. And we were adopted in, you  
15 know, as I said, about 80 percent of the devices that were  
16 shipping at the time.

17 So the approach worked. And the technology was a very  
18 good fit for the value proposition downloadable apps that we  
19 were trying to market.

20 **Q.** By 2006, which carriers were requiring Java in their  
21 phones?

22 **A.** Well, some examples would be Sprint, AT&T, T-Mobile, in  
23 the U.S. Vodafone Orange. Telefónica Europe. NTT DoCoMo.  
24 It's the largest carrier in Japan. And in Korea, KT was  
25 another. So they were all over the world. All of the major

## BRENNER - DIRECT / SIMPSON

1 carriers or most of the major carriers.

2 Q. And which manufacturers sold Java-powered phones in 2006?

3 A. Again, the bulk of the industry. So, for example, Nokia;  
4 BlackBerry; Samsung LG. Danger was another. Panasonic. Yeah.  
5 Long list.

6 Q. Are any of those manufacturers still selling Java-based  
7 phones in 2016?

8 A. I think most are not, at this point.

9 Q. I want to talk specifically about some of the phones that  
10 were on the market just before you left Sun, again in the end  
11 of 2006 time frame.

12 Did you use the term "smartphone" and "feature phone" when  
13 you were at Sun in that time frame?

14 A. I did.

15 Q. And what was your understanding of the difference, if any,  
16 between smartphones and feature phones?

17 A. Well, in that time frame, the differences would be  
18 different than they are today because the smartphone category,  
19 at that point, was just emerging. And, in fact, sort of going  
20 through a change.

21 In that time frame, it was more or less a continuum.  
22 Smartphones, at that point, often had larger screens, higher  
23 resolution screens, color capability. They often had  
24 keyboards, QWERTY keyboards. Whereas, a feature phone would  
25 have a 9-key keypad, like you might see on a conventional

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1 telephone, and less screen capability, less memory.

2 Both smartphones and feature phones in this period,  
3 though, would have had network capability and downloadable  
4 applications.

5 **Q.** So with that continuum in mind, if we look specifically at  
6 2006, what percentage of feature phones were powered by Java at  
7 that time?

8 **A.** I would say about 80 percent of the phones, feature phones  
9 in that time, were Java-enabled.

10 **Q.** And looking, again, at that specific time frame in 2006,  
11 what percentage of smartphones were Java-powered at that time?

12 **A.** Nearly a hundred percent at that point.

13 **Q.** And which manufacturers were making smartphones at that  
14 time?

15 **A.** Uhm, well, Nokia would be one. The Series 60 devices and  
16 Series 80 devices. All of the BlackBerry products were  
17 Java-powered. But others had as well. Samsung LG, Panasonic.  
18 Again, quite a long list. Sony Ericsson was another. So  
19 several.

20 **Q.** In the 2006 time frame, what was your view, if any,  
21 regarding Sun's ability to capitalize on its success and  
22 continue in its dominant market share with respect to the  
23 mobile industry going forward?

24 **A.** I thought we were really well-positioned in light of our  
25 presence in the industry, the fact that the industry was fully



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1 licensed. Carriers had adopted the value proposition of  
2 downloadable apps. And we were, you know-- we had a very large  
3 developer community. So we had a number of assets that we  
4 thought gave us a chance, a good chance to be a strong player  
5 in the smartphone space.

6 **Q.** What is Java ME, Mr. Brenner?

7 **A.** Java ME is an application development platform for mobile  
8 devices, cell phones, and in that time frame pagers.

9 Connected -- connected mobile devices. You use it to build an  
10 application that runs on the phone and executes securely.

11 **Q.** Were you involved in the initial creation of ME?

12 **A.** Yeah. I led the initial creation of ME.

13 **Q.** Can you tell me how ME was created?

14 **A.** I had a mandate to develop a Java platform for mobile  
15 devices. And in that time frame I discovered or my team  
16 discovered a research project in Sun labs. Two researchers had  
17 developed a lightweight Java implementation for the Palm Pilot,  
18 which my team took over and commercialized in September of  
19 2000.

20 **Q.** And how did you go about developing the ME software?

21 **A.** We selected classes from Java SE. Java ME was essentially  
22 derived from Java SE and complemented or added to that  
23 mobile-specific classes that would fill out the API of the  
24 device for mobile applications.

25 **Q.** And during your time at Sun what, if any, changes did Sun

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1 make to Java SE?

2 **A.** Well, Java SE would be regularly updated.

3 **MR. PAIGE:** Objection. Foundation, Your Honor.

4 **THE COURT:** Well, do you know the answer from your own  
5 personal knowledge?

6 **THE WITNESS:** Yes.

7 **THE COURT:** All right. You may answer. Objection  
8 overruled.

9 **THE WITNESS:** Java SE would be regularly updated. For  
10 example, in 2005 -- 2004 would have been the 1.4 update.  
11 Java SE 5.0 would be another update.

12 The names would change based on the magnitude of the  
13 update, either a point release or a major release. And in  
14 practice, as a policy, Java ME would be updated sometime after,  
15 typically, six months to a year afterwards. We regularly would  
16 update Java ME to track the development of Java SE.

17 **BY MS. SIMPSON**

18 **Q.** You mentioned Java SE 1.4. What, if any, changes to  
19 Java ME did you make following the release of Java SE 1.4?

20 **A.** We went through all of the components of Java ME and  
21 included or added to Java ME the new material; made updates to  
22 preexisting material. And, you know, generally with every  
23 update we added -- in that case in particular, we added new  
24 material for the cell phone industry specific requirements.

25 **Q.** How, if at all, did the differences between Java SE and

**BRENNER - DIRECT / SIMPSON**

1 Java ME change over time?

2 **A.** Over time, Java ME absorbed --

3 **MR. PAIGE:** Objection. Foundation.

4 **THE WITNESS:** -- more and more --

5 **THE COURT:** Do you know the answer from personal  
6 knowledge?

7 **THE WITNESS:** I do.

8 **THE COURT:** All right. Please answer.

9 **THE WITNESS:** Over time, Java ME absorbed more and  
10 more of the Java SE functionality. And that became possible  
11 because devices were rapidly increasing in CPU capability,  
12 computational capability, memory, and battery, that allowed us  
13 to take on more of the scope of Java SE.

14 **BY MS. SIMPSON**

15 **Q.** Mr. Brennen, are you familiar with the SavaJE phone?

16 **A.** I am.

17 **Q.** And what is the SavaJE phone?

18 **A.** SavaJE phone is -- there were a couple I'm aware of. One  
19 from LG, I believe. And another was the Jasper S20. These  
20 phones were built on an operating system developed by SavaJE,  
21 that was based directly on Java SE, and was compatible with  
22 Java SE as well as Java ME.

23 **Q.** Was SavaJE a Java licensee?

24 **A.** They were. They were licensed to use Java ME and Java SE  
25 for mobile devices.

## PROCEEDINGS

1 Q. And are you aware of the Danger phone?

2 A. I am. The Hiptop or Sidekick.

3 Q. And how are you aware of that phone?

4 A. In, I think, 2003, I supported our sales team in licensing  
5 negotiation with Danger. We had learned that Danger had issued  
6 the Sidekick without -- including Java and without a Java  
7 license.

8 Q. And what did you and Sun do about that?

9 A. We engaged with Danger. And they took a license to  
10 Java ME.

11 Q. And you mentioned Danger as an example of a smartphone?

12 A. Danger was a smartphone in that period.

13 Q. And how are you aware of that?

14 A. I actually carried a Danger Hiptop for about three weeks.  
15 I had gotten it from Vineet Gupta, who I believe received it  
16 from Andy Rubin or members of his team.

17 Q. During your time at Sun, Mr. Brenner, were you aware of a  
18 dispute with the South Korean government concerning the use of  
19 Java?

20 MR. PAIGE: Objection, Your Honor. 403. Relevance.

21 THE COURT: All right. Seems like we had a ruling on  
22 this.

23 MR. PAIGE: We did.

24 MS. SIMPSON: Did not, Your Honor, with respect to  
25 this witness.

## PROCEEDINGS

1           **THE COURT:** Well, it's time for our break anyway.  
2 Please remember the admonition. See you back here in 15  
3 minutes.

4           (Jury out at 9:19 a.m.)

5           **THE COURT:** Please be seated.  
6 Should the witness be here, or not?

7           **MS. SIMPSON:** I don't think it matters.

8           **MR. PAIGE:** I don't think so, Your Honor.

9           **THE COURT:** Mr. Brenner, you may step outside for 15  
10 minutes. We'll see you back here then.

11           I know that the word "Korea" came up in the last couple of  
12 days. And I thought I had a ruling on it, but I don't  
13 remember. And I don't want you to misrepresent what I said.

14           So how did it come up, and what was the ruling?

15           **MR. PAIGE:** It came up with Mr. Cizek's documents,  
16 Your Honor. Mr. Ragland talked about it. And at the end of  
17 it, Mr. Bicks said he won't bring up Korea.

18           **THE COURT:** What?

19           **MR. PAIGE:** Mr. Bicks said, "I will not bring up  
20 Korea." And we understood that to be that it's not coming into  
21 the case, not that it wasn't coming just in (unintelligible).

22           **MS. SIMPSON:** Your Honor, the objection was based on  
23 hearsay. This document was signed by Mr. Brenner.

24           **MR. PAIGE:** It's still hearsay, Your Honor. It's a  
25 self-serving letter.

## PROCEEDINGS

1           **THE COURT:** Wait. Wait. So your position on what I  
2 said before is what?

3           **MS. SIMPSON:** Was that it was related to that  
4 particular witness.

5           This is directly relevant, Your Honor. This is concerning  
6 use of GNU Classpath code and the -- something that Google has  
7 relied on continually in this case to say that there were other  
8 implementations out there in the world that Sun wasn't doing  
9 anything about.

10          Well, this is a commercial implementation where the entity  
11 claimed that it got its code from GNU. And Sun shut it down.

12           **THE COURT:** Let me see your document.

13          Mr. Bicks, what did I say yesterday?

14           **MR. PAIGE:** Sorry, Your Honor.

15           **MR. BICKS:** Your Honor, this is what you said. An  
16 exhibit -- or there was some reference to Korea in a document  
17 that popped up with Mr. Civjan. But you raised it with me. I  
18 said, I'm not getting into that with this witness.

19          I had never intended to ask Mr. Civjan about Korea. It  
20 wasn't in any issue that I was going to cover with him. And  
21 that's what I responded when Your Honor asked me that.

22          I wasn't saying that --

23           **THE COURT:** Does someone have the transcript of what I  
24 said?

25           **MR. PAIGE:** Yes. It says "Korea is out," Your Honor.

## PROCEEDINGS

1 1503, line 2.

2 **THE COURT:** Well, but I've got to read that in  
3 context.

4 Mr. Bicks says:

5 "I'm not getting into that."

6 I say:

7 "Korea is out."

8 So --

9 **MR. BICKS:** I never -- it wasn't an issue with that  
10 witness, is what I was saying. I wasn't even -- I didn't even  
11 make a tender to Your Honor about --

12 **THE COURT:** Mr. Ragland, on the prior page, says:

13 "Your Honor, the last issue relating to Mr. Civjan,  
14 there are two documents that relate to some sort of  
15 dispute," 403, IP, and all that.

16 So then:

17 "Are you going to get into Korea?"

18 And you say:

19 "I'm not getting into that."

20 "Korea is out."

21 I think in context I was talking about that witness. So I  
22 haven't made a global ruling that Korea is out. It came up in  
23 the context of one witness.

24 Now, that's not to say it's in for this witness. So  
25 let's -- we've got to look at this current problem fresh and

## PROCEEDINGS

1 see what the problem is.

2 **MR. PAIGE:** It's a self-serving hearsay document  
3 written by Mr. Brenner. It does not mention the word  
4 "copyright." Nor would it since this is Korea we're talking  
5 about, not the United States where these copyrights are in  
6 effect.

7 **THE COURT:** I was going to ask all of you whether or  
8 not these U.S. copyrights apply to all these worldwide  
9 businesses --

10 **MR. PAIGE:** No --

11 **THE COURT:** -- and how that affects the case. Hang on  
12 a minute.

13 **MS. SIMPSON:** Your Honor, it says, "Sun's intellectual  
14 property rights." And it is a contemporaneous cease and desist  
15 letter.

16 **MR. PAIGE:** As Your Honor is well aware, there are  
17 many more intellectual property rights than copyright. There  
18 are patents. There are trademarks.

19 **THE COURT:** What is WIPI?

20 **MS. SIMPSON:** That is the standard that the Korean  
21 government was going to enter. And it was going to require all  
22 carriers in Korea to use this specification, which was going to  
23 contain the Java APIs.

24 **THE COURT:** All right. But what does this have to do  
25 with the GNU project?



## PROCEEDINGS

1           **MS. SIMPSON:** Your Honor, Mr. Brenner, who is  
2 personally familiar with the negotiations with this entity, is  
3 going to testify that the excuse that they gave when they  
4 responded to this letter was that their code was taken from  
5 GNU, an issue that Google has put front and center in this case  
6 and we're entitled to rebut.

7           **MR. PAIGE:** The copyrights at issue have no effect in  
8 Korea, whatsoever, Your Honor.

9           **MS. SIMPSON:** Your Honor, they have made the  
10 allegation that we didn't enforce against GNU. This is an  
11 example of Sun enforcing against GNU.

12           **MR. PAIGE:** There is nothing enforced against GNU  
13 here, Your Honor. GNU was not a party to this proceeding in  
14 Korea.

15           **MS. SIMPSON:** The witness is going to testify about  
16 the connection.

17           **THE COURT:** If I understand right, the witness is  
18 going to say a dispute came up with this standard in Korea  
19 called the Wireless Internet Standardization Forum? Anyway,  
20 standard. And that that would have required Java -- of course,  
21 it does say Java Virtual Machine. Oh, okay. Subset, superset,  
22 Java specification.

23           But this doesn't say anything about the GNU Classpath.

24           **MS. SIMPSON:** Right, Your Honor.

25           Once this letter was sent, Mr. Brenner will explain that

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1 the response that he received was that this entity said that  
2 they got their code from GNU, so it was fine.

3 **MR. PAIGE:** That would be hearsay, Your Honor.

4 **THE COURT:** No, not necessarily. It's proving up a  
5 transaction. So that's not quite right.

6 But then what was his response? So this letter comes  
7 first. Then Korea says --

8 **MS. SIMPSON:** GNU.

9 **THE COURT:** -- GNU. Then what does Sun say?

10 **MS. SIMPSON:** Sun said that's not licensed and that's  
11 not a good excuse.

12 **THE COURT:** Show me that letter.

13 **MS. SIMPSON:** What?

14 **THE COURT:** Show me that letter.

15 **MS. SIMPSON:** There isn't a letter. He's just going  
16 to testify to it.

17 **THE COURT:** He's just going to verbalize it?

18 **MS. SIMPSON:** Your Honor, they took a license. He's  
19 going to testify under oath that they took a license from Sun  
20 for Java after this correspondence and that discussion. It's a  
21 negotiation.

22 **THE COURT:** Well, the important part is not in  
23 writing. The important part is the part where they say GNU.

24 **MS. SIMPSON:** Well, Your Honor, this is important too  
25 because it's showing that Sun was enforcing its rights.

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1           **MR. PAIGE:** Again, Your Honor, there is no mention of  
2 copyrights here. Nor would they have effect in South Korea.

3           **THE COURT:** It's implied here, when it's talking about  
4 the specification supersets and super -- subsets and supersets  
5 Java specification. That's the only thing it can be talking  
6 about.

7           **MR. PAIGE:** I don't agree with that, Your Honor. Can  
8 be talking about patents and trademarks as well.

9           **THE COURT:** Well, you can hire an expert to explain  
10 that. But I believe you're wrong.

11           So it's a reasonable interpretation that this covers  
12 copyrights, maybe among other things. It does also get to the  
13 virtual machine. But -- which is not in dispute here. But --

14           **MS. SIMPSON:** Your Honor, this gets to the GNU issue  
15 which, frankly, Your Honor, has been -- you know, you issued a  
16 ruling on GNU that said GNU testimony was supposed to be  
17 limited to the issues of fragmentation and substitution.

18           Google has not followed the MIL, at all, despite our  
19 objections. And now it's in there as a possible alternative or  
20 a possible explanation for a way that Sun allowed people to  
21 freely implement their specifications without any enforcement.

22           This is an example of enforcement. This is the only  
23 example, actually, that we're aware of a commercial use of the  
24 GNU implementation. And the only instance where the  
25 commercial -- a commercial use was made, Sun shut it down. We

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1 should be able to show that by evidence in this case.

2 **THE COURT:** Well, how come -- how come Sun didn't go  
3 shut down the GNU?

4 **MS. SIMPSON:** It was a research entity, Your Honor.  
5 Again, it's a choice. They're allowed to enforce their rights  
6 as they see are necessary.

7 **THE COURT:** Doesn't make sense to me, but  
8 nevertheless -- look. I think -- was this a properly disclosed  
9 document?

10 **MS. SIMPSON:** Yes, Your Honor.

11 **THE COURT:** All right. Here's -- do you have anything  
12 more to say?

13 **MR. PAIGE:** It's 403, Your Honor. I mean, it's not  
14 U.S. copyrights, and confusing the jury while we're talking  
15 about something in 2002 in Korea. It doesn't relate to the  
16 copyrights here at all.

17 **MS. SIMPSON:** Your Honor --

18 **THE COURT:** What is your answer to that?

19 **MS. SIMPSON:** It doesn't relate to the copyrights?

20 **THE COURT:** Well, no. The U.S. copyrights, are they  
21 even enforceable in Korea?

22 **MS. SIMPSON:** Your Honor, there is a Berne Convention.  
23 So, yes, you can enforce your copyrights in Korea.

24 **THE COURT:** Even in Korea?

25 **MS. SIMPSON:** Yes, Your Honor.

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1           **THE COURT:** Okay. Is that true?

2           **MR. PAIGE:** I'm sorry, Your Honor?

3           **THE COURT:** Under the Berne Convention, U.S.  
4 copyrights would apply in Korea?

5           **MR. PAIGE:** I don't believe so, Your Honor.

6           **THE COURT:** If you don't know then, Ms. Simpson, do  
7 you know for sure?

8           **MS. SIMPSON:** Yes, Your Honor.

9           **MR. PAIGE:** Sorry, Mr. Baber is going to correct me on  
10 that.

11           **MR. BABER:** I was just going to say, there are a  
12 number of different treaties. There's the Berne Convention.  
13 There's the Universal Copyright Convention. You have to look  
14 and see whether the country is a signatory, et cetera.

15           **THE COURT:** Ms. Simpson has done all that. She says  
16 that she's right. And you don't know the answer.

17           **MR. BABER:** No, no. If we're talking South Korea, my  
18 guess is South Korea is a party to those treaties, and U.S.  
19 copyrights would probably be recognized in Korea. What the  
20 Korean copyright laws would be substantively, that I don't  
21 know.

22           **THE COURT:** Look. All right. Here's the answer.

23           **MR. PAIGE:** Your Honor, may I add one more thing?

24           **THE COURT:** Yes.

25           **MR. PAIGE:** Because this is a standard, they're

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1 requiring the cell phone manufacturers to have it. And if it's  
2 a standard that's being forced on the cell phone manufacturers,  
3 they would say it's going to infringe their rights to keep the  
4 Java brand with the same APIs, and so on and so forth. So  
5 that's another issue that's kind of complicated here.

6 **MS. SIMPSON:** Your Honor --

7 **THE COURT:** No. Here's the answer: Ms. Simpson is  
8 correct that Google has stretched the order on the motion in  
9 limine to lay before the jury the fact that the GNU foundation  
10 had an open source version of Java, and it was flourishing with  
11 Sun's apparent blessing. Okay. So you got way past -- maybe  
12 way past is -- a little past what I thought you would be able  
13 to get in.

14 And the story that Ms. Simpson now wants to tell rebuts  
15 that, to an extent, by showing that Sun heard about the Korea  
16 use of Java; wrote a cease and desist letter; the Korea people  
17 came back and said GNU. And Sun said no GNU and got a license.

18 Now, that is not hearsay. That's proving up the  
19 transaction. It's like somebody comes in and says, I will  
20 offer to sell my car for a thousand dollars. And someone says,  
21 I accept. That's proving up a transaction. That's not  
22 hearsay.

23 This is proving up the transaction of what came down  
24 between Sun and whoever it is in Korea. So I'm going to allow  
25 this into evidence. And he can testify verbally as to the GNU

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1 part and the rest of it.

2 Objection overruled.

3 **MS. SIMPSON:** Thank you, Your Honor.

4 **MR. PAIGE:** Thank you, Your Honor.

5 **THE COURT:** We will take about ten minutes ourselves.

6 (Recess taken from 9:32 a.m. to 9:47 a.m.)

7 **THE COURT:** Be seated. Thank you.

8 All set over there? Great.

9 Ms. Simpson, please continue.

10 **BY MS. SIMPSON**

11 **Q.** Before the break, Mr. Brenner, I had asked you if during  
12 your time at Sun you were aware of a dispute with the South  
13 Korean government concerning the use of Java?

14 **A.** Yes, I was.

15 **Q.** And what was the nature of that dispute?

16 **A.** The south Korean government had decided to standardize on  
17 the Java technology that had been developed by a research  
18 institution in Korea, government research institution.

19 And we had informed them that what they had planned to do  
20 was based on technology that was incompatible, unlicensed, and  
21 infringed on Sun's IP.

22 **MS. SIMPSON:** I would like the witness to take a look  
23 at Trial Exhibit 9198.

24 **BY MS. SIMPSON**

25 **Q.** Do you recognize that document?

## BRENNER - CROSS / SIMPSON

1     **A.**    Yes, I do.

2     **Q.**    Can you tell the jury what it is.

3     **A.**    It's a letter that I authored with support from my team to  
4   the research institution in Korea.

5           **MS. SIMPSON:** Move to admit Trial Exhibit 9198.

6           **THE COURT:** Is this the one we talked about?

7           **MS. SIMPSON:** Yes, Your Honor.

8           **THE COURT:** All right. Received in evidence with this  
9   limitation that I need to explain it to the jury.

10          This is a letter that is written -- can we put it up on  
11   the screen.

12          (Document displayed.)

13          **THE COURT:** This is a letter written to someone in  
14   Korea, from Sun. And it lays out a position concerning  
15   protection of intellectual property. And it's not admitted for  
16   the truth that any of those statements in there are true. And  
17   they may be truth. We don't know. That's not why it's being  
18   admitted.

19          It's being admitted to show that this transaction occurred  
20   with Korea to -- for the purpose of Ms. Simpson trying to show  
21   that the Sun people tried to protect the copyrights and  
22   particularly what the response back and forth was and what  
23   eventually happened, this to meet the contention made by the  
24   other side that Sun did not try to shut down the open source  
25   projects.



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1 Now, I'm not saying which one is correct. I'm sorry, who  
2 is that that's hacking and coughing? Would you like a cough  
3 drop, please?

4 **MR. COOPER:** It was me, Your Honor. I'm sorry.

5 **THE COURT:** Well, Mr. Cooper of all people.

6 (Laughter)

7 **THE COURT:** You get a cough drop.

8 Anyway, I'm not trying to tell you who is correct or not  
9 correct. That's for you to decide. But I'm going to let both  
10 sides have their say on this point.

11 All right. So it's limited to that use. 9198 received in  
12 evidence.

13 (Trial Exhibit 9198 received in evidence.)

14 **THE COURT:** Go ahead.

15 **BY MS. SIMPSON**

16 **Q.** Mr. Brenner, you signed this document?

17 **A.** Yes, I did.

18 **Q.** If we can look at the second paragraph of the exhibit,  
19 beginning with "Based on your presentation to us."

20 Do you see that sentence?

21 "It is apparent that the WIPI standard" --

22 **A.** Yes.

23 **Q.** Can you read that to the jury.

24 **A.** Yes.

25 **Q.** Slowly.

1     **A.**    Yes.

2            "It is apparent that the WIPI standard," and then in  
3     parentheses, "(including the specification and any  
4     implementation of that specification) infringes Sun's  
5     intellectual property rights and violates Sun's Java technology  
6     licensing rules."

7     **Q.**    Did you receive a response?

8     **A.**    I did.

9     **Q.**    What was your understanding of the position that this  
10    entity took with respect to the use of the Java software?

11    **A.**    Their position, in response, was that they were not  
12    infringing on Sun's intellectual property rights because they  
13    obtained the technology that they based their work on from the  
14    GNU Classpath project.

15    **Q.**    Did you agree with their position?

16    **A.**    I did not.

17    **Q.**    Why not?

18    **A.**    Oh, I responded back to this organization that the GNU  
19    Classpath project was itself improperly -- or unlicensed and  
20    also infringed on Sun's intellectual property rights; and,  
21    therefore, whatever they had done based on that work would also  
22    infringe on our property rights.

23    **Q.**    Was this dispute ever resolved?

24    **A.**    It was.

25    **Q.**    In what way?

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1   **A.**   We engaged the U.S. trade representative, who in turn  
2   contacted the Korean government and persuaded them to stand  
3   down from this initiative of standardizing the technology  
4   developed by this research institution.

5           And they instead -- that, instead, led to the licensing  
6   standard commercial licenses for Java by the Korean carriers  
7   and the Korean cell phone manufacturers.

8           **MS. SIMPSON:** Pass the witness.

9           **THE COURT:** All right. Thank you.

10                           **CROSS-EXAMINATION**

11   **BY MR. PAIGE**

12   **Q.**   Good morning, Mr. Brenner.

13   **A.**   Good morning.

14   **Q.**   Now, Mr. Brenner, you left Sun in December of 2006;  
15   correct?

16   **A.**   That is correct.

17   **Q.**   And that was almost a year before Google released Android  
18   in November of 2007, isn't it?

19   **A.**   I believe that's correct.

20   **Q.**   So you don't have any firsthand knowledge of what people  
21   said internally at Sun when Android was released; correct?

22   **A.**   No, I don't.

23   **Q.**   Now, you also left Sun years before Sun was bought by  
24   Oracle; right?

25   **A.**   That is correct.

1 Q. So you were never an Oracle employee; right?

2 A. That is correct.

3 Q. But Oracle is now a client of yours in relationship to  
4 this case, is it not?

5 A. Yes.

6 Q. And your consulting agreement, that's with Oracle's legal  
7 team; right?

8 A. That is correct.

9 Q. And beyond the arrangement with Oracle's legal team  
10 regarding this case, you have no other consulting arrangement  
11 with Oracle, do you?

12 A. I do not, no.

13 Q. And you intend to bill Oracle for the time you spent  
14 meeting with the lawyers getting ready for trial, don't you?

15 A. Yes.

16 Q. But you're not billing them for the time you spend on the  
17 stand today; correct?

18 A. No, I am not.

19 Q. Okay. Now, you had some involvement in negotiations with  
20 Google and Sun in the 2005 and 2006 time frame; correct?

21 A. Yes, that's correct.

22 Q. Those negotiations, they weren't just about a license,  
23 were they?

24 A. Well, they were -- they were centering on a license. But  
25 other topics did come up.

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1 **Q.** They were not just about a license, were they, sir?

2 **A.** No, that was not the only topic we discussed.

3 **Q.** Right.

4 In fact, in those negotiations Google proposed a deal  
5 whereby Sun would contribute Java implementing code and Google  
6 would contribute Linux implementing code to make a phone;  
7 correct?

8 **A.** To make a software stack that could be used for phones.

9 **MR. PAIGE:** Can we play 184/19 to 184/23 of  
10 Mr. Brenner's December 15th deposition, please.

11 (Videotaped testimony played as follows:

12 **"Q.** Do you recall that there came a time that Google  
13 proposed that they would contribute a Linux -- Linux  
14 implementing code and Sun would contribute Java  
15 implementing code to make a phone?

16 **"A.** Yes.")

17 **BY MR. PAIGE**

18 **Q.** Do you stand by that testimony, Mr. Brenner?

19 **A.** Yeah.

20 **Q.** Okay. Now, you thought a partnership with Google around  
21 Java technology in mobile was an attractive possibility; right?

22 **A.** I did.

23 **Q.** Okay. Mr. Brenner, I'd like to show you Exhibit 2436.

24 **MR. PAIGE:** May I approach the witness, Your Honor?

25 **THE COURT:** Yes.

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1           **MR. PAIGE:** 2436 is in evidence. May I put it up on  
2 the screen, please.

3           (Document displayed.)

4           **BY MR. PAIGE**

5           **Q.** This is an email that went to you; correct, sir?

6           **A.** It is.

7           **Q.** Okay. Now, the title of this email, it's "Confidential  
8 current Armstrong biz status. Neal, please review." Do you  
9 see that?

10          **A.** Yes.

11          **Q.** "Armstrong," that was the internal Sun code name referring  
12 to discussions between Sun and Google during this period;  
13 right?

14          **A.** That's correct.

15          **Q.** I want to direct your attention to the second email in the  
16 chain, which begins "Neal." Could you read that first sentence  
17 there, please.

18          **A.** Oh, I'm sorry.

19               "The make it or break it number from Google is 28 million  
20 for 3 years, no revenue share. Alan" --

21          **Q.** Next sentence says what?

22          **A.** "Alan has approved it."

23          **Q.** Alan refers to you; right?

24          **A.** It does.

25          **Q.** And your understanding at the time was that the

**BRENNER - CROSS / PAIGE**

1 \$28 million number was a payment over three years for all time;  
2 correct?

3 **A.** That is correct.

4 **Q.** Okay.

5 **THE COURT:** It's unclear. Who would be paying who?  
6 Tell us what the --

7 **BY MR. PAIGE**

8 **Q.** Google would be paying Sun \$28 million; correct?

9 **A.** Correct.

10 **Q.** Okay. Now, after Sun and Google weren't able to reach an  
11 agreement on a partnership, you suspected that Google would  
12 independently implement the Java Class Library APIs, or some  
13 subset of those; right?

14 **A.** I had my previous experience with Andy Rubin at Danger  
15 which -- in which that's what he did. I thought he might  
16 try --

17 **Q.** I'm sorry, Mr. Brenner. Can I ask the question again.

18 After Sun and Google weren't able to reach an agreement on  
19 a partnership, you suspected that Google would independently  
20 implement the Java Class Library APIs, or some set of those;  
21 correct?

22 **A.** I speculated that they would try to proceed without a  
23 license. I didn't -- yes, that's correct.

24 **MR. PAIGE:** Could we play the depo transcript of  
25 April 15th, at lines 40 -- page 40, line 13 through 16, please.

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(Videotaped testimony played as follows:

**Q.** You suspected that they would independently implement the Java Class library APIs, or some subset of those; correct?

**A.** Yes.")

**BY MR. PAIGE**

**Q.** And that belief was quite generally held by many people at Sun at the time; right?

**A.** By the people who are involved -- by several people who are involved in the negotiations with Google. I would say that's true.

**Q.** Okay. Mr. Brenner, you're not a lawyer; correct?

**A.** I'm not.

**Q.** And when you talk about something being derived from Java SE, you weren't offering an opinion about whether it is a derivative work, were you?

**A.** I was speaking to the origins or the sources of the technology and the content of the products.

**Q.** You weren't offering any legal opinions on a derivative work, were you, sir?

**A.** I can't offer a legal opinion, no.

**Q.** Okay. Now, you said that there was code from Java SE put into Java ME later on. Is that your testimony?

**A.** My testimony is that the API -- APIs from Java SE were applied to Java ME. In some cases they -- we leveraged code.



1 In other cases we implemented a consistent API spec.

2 Q. How much code was put into Java ME from Java SE, sir?

3 A. I can't recall enough to quantify that.

4 Q. Can you give any idea as to how much was moved in?

5 A. Well, my guess -- my recollection would be there were at  
6 least several dozen APIs that spanned the two editions at the  
7 time. But I couldn't quantify beyond that.

8 Q. How many APIs did Java ME have, sir?

9 A. I don't recall the number, but --

10 Q. How many APIs did Java SE have?

11 A. I don't recall the number.

12 Q. Is it possible there were several dozen APIs added to  
13 Java ME?

14 A. Well, the word "API," of course, would -- you know, there  
15 are classes and methods. There were certainly several dozen  
16 methods. Probably quite a bit more than that in Java ME.

17 Q. Now, your job responsibilities at Sun, they involved  
18 licensing Java; correct?

19 A. Uhm, I was responsible for the business and the P&L. And  
20 the sales team would draft and negotiate the licenses. But I  
21 would often support them for product purposes.

22 Q. You don't recall ever offering to license just the Java  
23 API specifically to any company; correct?

24 A. I don't.

25 Q. And during the time you were with Sun, you don't recall

## BRENNER - CROSS / PAIGE

1 ever using the term "structure, sequence and organization" in  
2 licensing discussions, do you?

3 A. I was not aware of that term at the time.

4 Q. We talked a little bit about Danger, Exhibit 1026. That  
5 was a license to Java ME; correct?

6 A. That's correct.

7 Q. And you don't know whether Danger ever took a license to  
8 Java SE, do you?

9 A. I do not, no.

10 Q. Could we look at Exhibit 9198, please.

11 (Document displayed.)

12 Q. Mr. Brenner, you testified about this letter on direct;  
13 correct?

14 A. Yes.

15 Q. It was written in September of 2002; right?

16 A. Yes.

17 Q. You were at Sun for another four-plus years after that,  
18 were you not?

19 A. That sounds right, yeah.

20 Q. In those four years, you never wrote such a letter to GNU  
21 Classpath, did you?

22 A. I did not, no.

23 Q. You know of the Apache Harmony Project, do you not, sir?

24 A. I'm aware of it, yes.

25 Q. The Apache Harmony Project was not licensed by Sun;

1 correct?

2 A. I don't believe so, but I can't say that with confidence.

3 Q. And you recall that IBM was a big supporter of Apache  
4 Harmony; correct?

5 A. That sounds familiar, yes.

6 Q. You also testified about the SavaJE phone; correct?

7 A. Yes.

8 Q. Have you ever seen the SavaJE phone?

9 A. I have.

10 Q. It's a lot smaller than an iPhone, is it not?

11 A. I don't remember the relevant size, but I think that's  
12 right, yeah.

13 Q. The screen a lot smaller, isn't it?

14 A. It is.

15 Q. Didn't have a touchscreen?

16 A. I don't think so, no.

17 Q. In fact, the navigator on the screen had a little joy  
18 stick; right?

19 A. Yes, like most smartphones in that era. That's true.

20 Q. It didn't have a physical typewriter keyboard like the  
21 T-Mobile Sidekick did; right?

22 A. I don't recall.

23 Q. Just has a phone keyboard?

24 A. I don't recall exactly, no.

25 Q. Do you recall that to text message you would have to press

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1 the letter number two, three times to get a C up there?

2 **A.** Yeah. That's how all those phones in that era work, with  
3 9 -- 9-key keypads.

4 **Q.** You would say it's very different than the modern  
5 smartphone, wouldn't you, sir?

6 **A.** It is.

7 **Q.** Your area of responsibility at Sun was Java ME; right?

8 **A.** In the arena -- in the Java product line, yes, that was my  
9 responsibility. I had others as well.

10 **Q.** And you had responsibility for Java SE for only about a  
11 year in 2001 or 2000; right?

12 **A.** That's right.

13 **Q.** Okay. Let me ask you a little bit about the Java ME  
14 business.

15 **MR. PAIGE:** May I approach, Your Honor?

16 **THE COURT:** Yes.

17 **BY MR. PAIGE**

18 **Q.** Mr. Brenner, I've handed you Exhibit TX 7237, which is in  
19 evidence.

20 **A.** Okay.

21 **Q.** This is the Sun presentation dated September 29th, 2006;  
22 right?

23 **A.** That's correct.

24 **Q.** Names on the cover page --

25 **MR. PAIGE:** May we display it, please.

1 (Document displayed.)

2 **BY MR. PAIGE**

3 **Q.** The names on the cover page are your name and Herb  
4 Hinstorff; right?

5 **A.** That's right.

6 **Q.** You told me in your deposition Mr. Hinstorff worked in  
7 marketing for Sun; right?

8 **A.** That's right.

9 **Q.** Would you turn to page 5 of the presentation, please.

10 (Document displayed.)

11 **Q.** Now, you and Mr. Hinstorff wrote there, "Stay the course  
12 and revenue drops"; right?

13 **A.** We did.

14 **Q.** And that was revenue from Java ME; correct?

15 **A.** That's correct.

16 **Q.** And the graph had Java revenue -- or Java ME revenue of  
17 about \$140 million in fiscal year 2007; am I reading that  
18 right?

19 **A.** You are.

20 **Q.** And depending on the line you followed, you predicted that  
21 revenue might have fallen to just over \$100 million in fiscal  
22 year 2010, or maybe around \$50 million in fiscal year 2010;  
23 right?

24 **A.** That's right.

25 **Q.** And these were predictions that Sun had prepared for

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1 internal use only; correct?

2 **A.** That's correct.

3 **Q.** So you believed these to be accurate, didn't you, sir?

4 **A.** Well, they were -- they were forecasts. And they were --  
5 there's a range here. So we weren't certain what would happen.  
6 But that was our best guess.

7 **Q.** And your best guess was it was dropping no matter what;  
8 correct?

9 **A.** Our best guess is that it would drop if we did not act as  
10 the other parts of the presentation recommend.

11 **Q.** And that was in 2006, was it not, sir?

12 **A.** That's correct.

13 **Q.** That was well before Android was even announced, wasn't  
14 it?

15 **A.** It was.

16 **MR. PAIGE:** May I approach the witness, Your Honor?

17 **THE COURT:** Sure. That last document, what was the  
18 that number? Is it in evidence?

19 **MR. PAIGE:** 7237. And, yes, it is, Your Honor.

20 **THE COURT:** All right. Thank you.

21 **BY MR. PAIGE**

22 **Q.** Mr. Brenner, I've handed you Exhibit TX 7238.

23 **A.** Thank you.

24 **Q.** This is a Sun presentation bearing your name; correct?

25 **A.** It is.

1 Q. Move the admission of 7238, Your Honor.

2 THE COURT: Any objection?

3 MS. SIMPSON: No objection.

4 THE COURT: Received.

5 (Trial Exhibit 7238 received in evidence.)

6 (Document displayed.)

7 BY MR. PAIGE

8 Q. Now, you wrote presentations, before you left Sun at the  
9 end of 2006, saying that Java ME was fragmented; correct?

10 A. I did.

11 Q. And, again, 2006, that was a year before Android was even  
12 announced; right?

13 A. Yes, it was.

14 Q. Look at page 13 of the document.

15 You wrote there that "Fragmentation undermines Java value  
16 proposition in the market"; right?

17 A. Right. That's what the title of the slide says.

18 Q. And that phrase refers to when a program written in  
19 Java ME might not be working as well on one OEM's  
20 implementation as another; right?

21 A. It does. Working differently.

22 Q. And, again, these problems all existed before Android was  
23 announced; correct?

24 A. That's correct.

25 MR. PAIGE: I pass the witness, Your Honor.

**BRENNER - REDIRECT / SIMPSON**

1           **THE COURT:** Wait. Wait. Before you leave that, the  
2 jury has heard the word "forked." Forked. F-o-r-k-e-d,  
3 forked. Is that the same thing as fragmentation? Or are they  
4 different things?

5           **THE WITNESS:** Not as it's used in this context.

6           What this slide is talking about is that each manufacturer  
7 had slightly different implementations. They -- each of the  
8 phones had, typically, a proprietary operating system. And the  
9 port -- ports of the technology were done by different  
10 entities. And so they were not bug-for-bug compatible, which  
11 impacted developer costs according to the actual devices, and  
12 changed behavior for the user. So we were concerned about that  
13 variation in the industry.

14           **THE COURT:** What you're talking about there was  
15 fragmentation. And that's what you were concerned about. But  
16 forked is something else?

17           **THE WITNESS:** Forked is something else.

18           **THE COURT:** Okay. Thank you.

19           All right. Let's go back to Ms. Simpson.

20                           **REDIRECT EXAMINATION**

21           **BY MS. SIMPSON**

22           **Q.** Mr. Brenner, in connection with Trial Exhibit 7237, the  
23 revenue slide --

24           **A.** Right.

25           **Q.** -- you had mentioned that you were making that forecast,



## BRENNER - REDIRECT / SIMPSON

1 "if we didn't do something," in the context of the slide deck.

2 Can you explain what you meant by that.

3 **A.** I can.

4 We wanted to do a couple of things and were looking for --  
5 for funding to do it. One of them was address the changes in  
6 behavior across devices, that I just described.

7 We thought it important to expand the scope of our  
8 implementation so that less work would have to be done by each  
9 manufacturer, to make behavior more consistent and, therefore,  
10 development easier for the platform. That was one thing.

11 Second thing was we wanted to increase the functionality  
12 of the platform to look more like a modern OS. And there were  
13 a couple of different strategies we had in mind for doing that.

14 **Q.** And this was in 2006; right?

15 **A.** That's correct.

16 **Q.** So you don't know which strategy Sun adopted to address  
17 this issue that had been identified in this slide, do you?

18 **A.** No. I left before the decision was taken.

19 **Q.** Mr. Brenner, did ME have optional API packages?

20 **A.** We did.

21 **Q.** What were those?

22 **A.** Because this was a period where phones were changing --  
23 actually, they were increasing in capability very quickly. And  
24 they were not uniform. There were many different  
25 manufacturers' devices with different classes of functionality.

## BRENNER - REDIRECT / SIMPSON

1       We then -- so we added, over time, optional packages to  
2       the platform so that devices that could take advantage of new  
3       features like media capabilities could do that. But devices  
4       that couldn't would not be obligated to provide those  
5       capabilities.

6       And we typically did that by watching what each  
7       manufacturer did and then proposing a standard to make that  
8       functionality consistent across the industry.

9       **Q.** And, Mr. Brenner, you gave some testimony with respect to  
10      the negotiations between Sun and Google. And there was  
11      discussion about the purchase price and the terms of that.

12      Do you remember that testimony?

13      **A.** I do.

14      **Q.** Can you let us know or explain to the jury what other deal  
15      terms were surrounding that \$28 million figure.

16      **A.** One of the key deal terms was control over and  
17      responsibility for the hosting -- the hosting and updating of  
18      the software that went into the combined software product. And  
19      we reached impasse over how that would be done.

20      There was also disagreements about the -- which of the two  
21      companies and under what circumstances the two companies could  
22      offer a commercial version or commercial support for the  
23      software stack when it was produced.

24      **Q.** Did Sun have any other expectations for -- upside with  
25      respect to that deal?

## BRENNER - REDIRECT / SIMPSON

1   **A.**   We did.  There were two things we were thinking about.  
2   One of them was the ability to market a commercial version of  
3   the combined stack to cell phone manufacturers who were  
4   adopting it, and having some leeway to do that without direct  
5   competition from Google.

6           The other one was over who controlled what could be  
7   updated in the stack; who would authorize new developers to  
8   make updates to the stack.

9           And Sun saw that having -- having a central role there as  
10   a way to position ourselves favorably with developers building  
11   toward the platform, and favorable with carriers and  
12   manufacturers working with the platform, which would give us  
13   future business opportunities such as for tooling or app  
14   development, or things of that sort, that would emerge as the  
15   platform gained in market share.

16   **Q.**   And Google and Sun never reached a deal, did they?

17   **A.**   We could never reach agreement on those various terms,  
18   that's correct.

19   **Q.**   Mr. Brenner, you were also asked questions about what  
20   happened after those discussions broke down, and you indicated  
21   that you speculated that perhaps Google would use the APIs  
22   without a license.  Do you remember that testimony?

23   **A.**   Yes, I do.  Yeah.

24   **Q.**   Can you tell me why you expected that?

25   **A.**   I expected it because I had already had experience with

**BRENNER - RECROSS / PAIGE**

1 Andy Rubin at Danger where that's what he did. And I also  
2 intended, like we had done in that incident or that -- in that  
3 episode, to follow up and ensure that a license would -- would  
4 be taken by Google.

5 We at Sun were very persistent and proactive about  
6 enforcing our intellectual property rights, and the awareness  
7 of this possibility at Sun was something that, you know, would  
8 have motivated and did motivate proactive engagement.

9 **MS. SIMPSON:** No further questions, Your Honor.

10 **THE COURT:** Anything more?

11 **MR. PAIGE:** Very briefly, Your Honor.

12 **RECROSS-EXAMINATION**

13 **BY MR. PAIGE:**

14 **Q.** Mr. Brenner, you mentioned some things you wanted to do in  
15 order to avoid the revenue drops; right?

16 **A.** Yes.

17 **Q.** One of those things was to create an alternative to  
18 Java ME using the Java SE platform, right, about 75 percent of  
19 the API packages or more?

20 **A.** The discussions with Google were based on --

21 **Q.** I'm sorry, Mr. Brenner. I'm talking about things that Sun  
22 was planning to do internally itself. You were planning to  
23 create or try to create a smartphone stack using north of 75  
24 percent of the API packages in Java SE; correct?

25 **A.** Can I ask a clarifying question? Is that in the

1 context -- are you asking about the negotiations with Google or  
2 subsequent?

3 **Q.** I am not. I'm asking about what you said you would have  
4 done to avoid the revenue drops that you showed in your  
5 presentation.

6 One of the things you were trying to do in the 2005/2006  
7 time frame, you led a project to try to create a mobile  
8 platform that used more than 75 percent of the API packages in  
9 Java SE?

10 **A.** That's true, yes.

11 **Q.** And that project was never completed, as far as you know;  
12 right? It was still unfunded when you left Sun; correct?

13 **A.** Work had been done, but, no, I don't believe that project  
14 received the funding we were looking for.

15 **Q.** And, in fact, rather than continue with that project, Sun  
16 went and bought SavaJe instead; correct?

17 **A.** That's correct, yes.

18 **MR. PAIGE:** Nothing further.

19 **THE COURT:** May the witness be excused?

20 **MS. SIMPSON:** Yes, Your Honor.

21 **THE COURT:** Thank you, sir. You may step down. I'm  
22 going to discharge him from the subpoena, unless I hear an  
23 objection.

24 **MR. PAIGE:** No, Your Honor.

25 **THE COURT:** You are discharged from the subpoena.

1 We go to our next witness.

2 **MR. BICKS:** Your Honor, Ms. Von der Ahe is going to do  
3 a few video clips.

4 **THE COURT:** That's great. Welcome back. And you know  
5 the drill. Please, go ahead.

6 **MS. VON DER AHE:** At this time, we are going to  
7 present to you two short video clips.

8 First is a Mr. Brian Swetland. His sworn video deposition  
9 testimony was taken on July 7, 2011. And he was a Google  
10 employee at the time.

11 (Whereupon, the video deposition was played for the jury)

12 **MS. VON DER AHE:** In association with that video, we  
13 would like to of move into evidence TX 303, TX 156 and TX 149.

14 **THE COURT:** Any objection?

15 **MR. VAN NEST:** No objection, Your Honor.

16 **THE COURT:** Please give me those numbers again.

17 **MS. VON DER AHE:** 303.

18 **THE COURT:** 303.

19 **MS. VON DER AHE:** 156.

20 **THE COURT:** 156.

21 **MS. VON DER AHE:** And 149.

22 **THE COURT:** Got it. All three of those are in  
23 evidence.

24 (Trial Exhibits 303, 156 and 149 received in evidence)

25 **THE COURT:** What's your next video?

**MAZZOCCHI - DIRECT / HURST**

1           **MS. VON DER AHE:** Our next video is Mr. Bob Lee. He  
2 was a former Google employee at the time of this deposition.

3           (Whereupon, the video deposition was played for the jury)

4           **THE COURT:** All right. Anything more?

5           **MS. HURST:** Your Honor, we're ready to call our next  
6 witness, Mr. Stefano Mazzocchi.

7           **THE COURT:** All right. Let's bring him in.

8           Welcome. Please stand somewhere in there and raise your  
9 right hand. The clerk will swear you in.

10           **STEFANO MAZZOCCHI, PLAINTIFF WITNESS, SWORN**

11           **THE CLERK:** Please state your name for the Court and  
12 spell your last name for the record.

13           **THE COURT:** Why don't you use the mic and have a seat,  
14 first and adjust it so it catches your voice.

15           **THE WITNESS:** Hello.

16           **THE COURT:** Say your name.

17           **THE WITNESS:** My name is Stefano Mazzocchi.

18           **THE COURT:** And spell the last name.

19           **THE WITNESS:** M-A-Z-Z-O-C-C-H-I.

20           **THE COURT:** Okay. That's great. And be sure to speak  
21 into the mic.

22           Ms. Hurst, your turn.

23           **MS. HURST:** Thank you, Your Honor.  
24  
25

**MAZZOCCHI - DIRECT / HURST****DIRECT EXAMINATION**

**BY MS. HURST:**

**Q.** Mr. Mazzocchi, my name is Annette Hurst. I represent Oracle in this matter. We have not before; is that correct?

**A.** We have not.

**Q.** You did not have any deposition taken in this lawsuit; is that true?

**A.** That is correct.

**Q.** So this is the first time you've ever again given any testimony in this lawsuit; right?

**A.** Yes, it is.

**Q.** Sir, you are a computer programmer; right?

**A.** I am.

**Q.** You have an advanced degree in electrical engineering?

**A.** Correct.

**Q.** And you worked for MIT as a researcher; is that true?

**A.** That's true.

**Q.** And in 1997, you worked on the Apache JServ project; is that right?

**A.** Yes.

**Q.** And you kind of worked your way up, first as a user, then a developer, and then you were the release coordinator for that project; is that right?

**A.** That's right.

**Q.** And the release coordinator means the person who puts all



## MAZZOCCHI - DIRECT / HURST

1 the requirements together, makes sure they're all met, and says  
2 *okay, it's okay to go ahead*; is that right?

3 **A.** Yeah.

4 **THE COURT:** You have to say it loud enough that we can  
5 get the court reporter to hear you.

6 **THE WITNESS:** I'm sorry. Yes.

7 **MS. HURST:** Thank you.

8 **Q.** And then after you worked on Apache JServ, you also worked  
9 on Apache JMeter; is that right?

10 **A.** Yes.

11 **Q.** And you worked on the Java Apache Mail Enterprise Server  
12 project?

13 **A.** Correct.

14 **Q.** And you were invited by Sun Microsystems to join the  
15 Servlet API expert group; is that right?

16 **A.** Yes.

17 **Q.** And after all your work on those various Apache  
18 products -- projects, you were proposed for membership and  
19 accepted as a member of the Apache Software Foundation in 1999;  
20 is that true?

21 **A.** That's right.

22 **Q.** And you've been a member of the Apache Foundation ever  
23 since; is that true?

24 **A.** No. I left the foundation -- I changed my status from  
25 membership to emeritus member in 2009.

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1 Q. In 2009?

2 A. Correct.

3 Q. And have you, at times, also served on the Board of  
4 Directors of the Apache Foundation?

5 A. Yes, I have.

6 Q. Did there come a time, sir, when you became a mentor to  
7 the Apache Harmony project?

8 A. Yes.

9 Q. And a mentor was somebody who was promoting the project to  
10 try to get it started; is that right?

11 A. Yes.

12 Q. And later did you become a PMC of the Apache Harmony  
13 project?

14 A. No. The PMC is actually a group.

15 Q. Okay.

16 A. I was part of the -- the Project Management Committee.

17 Q. So the Project Management Committee, that's what PMC  
18 stands for?

19 A. That's right.

20 Q. Were you a member of that Project Management Committee?

21 A. At the beginning of the project, yes.

22 Q. All right. And how many people were on that Project  
23 Management Committee?

24 A. I don't remember the exact number.

25 Q. Is it true that you have a Twitter account, sir?

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1 A. I do.

2 Q. And have you ever described yourself as one of three  
3 people who created Apache Harmony?

4 A. I don't recall.

5 Q. All right. Let me approach you with Exhibit 9518. See if  
6 that refreshes your recollection.

7 Mr. Mazzocchi, does that refresh your recollection that  
8 you at one time believed that you were one of three people who  
9 tried to save Java by creating Apache Harmony?

10 A. That seems like I wrote that.

11 Q. And that was true at the time you wrote it; right?

12 A. Can't recall the state of mind I had when I wrote that.

13 Q. Is it customary -- you wrote that on your Twitter feed; is  
14 that right, sir?

15 A. Yes.

16 Q. In or about 2010; is that right?

17 A. That's what this paper says.

18 Q. All right. And are you denying, as you sit here today  
19 under oath, that that was true at the time?

20 A. I'm sorry. Can you rephrase the question?

21 Q. Yes. Are you denying the truth of your statement in 2010  
22 that you were one of three people who tried to save Java by  
23 creating Apache Harmony?

24 A. I don't deny it.

25 Q. Now, is it true that you've given presentations from time

## MAZZOCCHI - DIRECT / HURST

1 to time regarding the work of the Apache Software Foundation?

2 A. Yes.

3 Q. And did you give a presentation at ApacheCon in 2007?

4 A. I don't remember.

5 Q. All right. Is it true that the Apache Software Foundation  
6 is a registered nonprofit organization?

7 A. Yes.

8 Q. And that it's a volunteer organization?

9 A. Correct.

10 Q. And that all work is done by volunteers and nobody gets  
11 paid by the foundation?

12 A. There are a few people that get paid by the foundation to  
13 do mostly system administrator work.

14 Q. So that's like the IT crew for the foundation; is that  
15 right?

16 A. Yes. Exactly.

17 Q. Okay. And is it true that one of the purposes is to  
18 provide -- of the foundation is to provide for open  
19 collaborative software development projects?

20 A. Yes.

21 Q. And is it also true, sir, that one of the purposes is to  
22 provide a means for individual volunteers to be sheltered from  
23 lawsuits directed at the foundation's projects?

24 A. I'm sorry. Can you repeat that?

25 Q. Yes. Is it true that one of the purposes of the Apache

**MAZZOCCHI - DIRECT / HURST**

1 Software Foundation is to provide a means for individual  
2 volunteers to be sheltered from lawsuits directed at the  
3 foundation's projects?

4 **A.** Yes. I believe that's correct.

5 **Q.** And in order to serve that purpose, sir, you have a legal  
6 affairs committee; is that right? Or you had a legal affairs  
7 committee when you were a member?

8 **A.** I don't know.

9 **Q.** All right. Do you know who Sam Ruby is?

10 **A.** Yes, I do.

11 **Q.** Was he ever the head of legal affairs for Apache while you  
12 were involved with the organization?

13 **A.** Don't remember.

14 **MS. HURST:** I'm going to approach, if I may,  
15 Your Honor, with Exhibit 9207.

16 **THE COURT:** Yes, please.

17 **BY MS. HURST:**

18 **Q.** Mr. Mazzocchi, are you familiar with the Internet Archive?

19 **A.** I am.

20 **Q.** And the Internet Archive has a service called the Wayback  
21 Machine where parts of the Internet, snapshots have been taken  
22 of that; is that right?

23 **A.** Uh-huh.

24 **Q.** I'm sorry --

25 **A.** Sorry, yes.

**MAZZOCCHI - DIRECT / HURST**

1 **Q.** You have to say yes for the reporter.

2 All right. Sir, I'm showing you a Wayback machine  
3 printout from the Apache Software Foundation on the date  
4 indicated in the upper right-hand corner, April 12th, 2008. Do  
5 you see there that it indicates that the VP of legal affairs --

6 **THE COURT:** Are you reading from a document --

7 **MS. HURST:** I apologize, Your Honor.

8 **THE COURT:** You can't do that.

9 **MS. HURST:** Understood.

10 **Q.** Would you look there, sir, in the middle of the page and  
11 see if it refreshes your recollection regarding Mr. Ruby's role  
12 in the Apache Foundation in or about April 2008.

13 **A.** Yes. This document states that Sam Ruby was the VP of  
14 legal affairs.

15 **Q.** Is that consistent with your recollection?

16 **A.** It is.

17 **Q.** Do you know Greg Stein?

18 **A.** I do.

19 **Q.** And is it true that Mr. Stein was also involved in the  
20 Apache Foundation at the time that you were involved in it?

21 **A.** Yes.

22 **Q.** And is it true that Mr. Stein was at one time the chairman  
23 of the Apache Foundation?

24 **A.** I believe so, yes.

25 **Q.** And was that in the mid 2000 time frame?

## MAZZOCCHI - DIRECT / HURST

1     **A.**    I honestly don't recall when that was.

2     **Q.**    I'm showing you Exhibit 9206, Mr. Mazzocchi.

3     **A.**    Thank you.

4     **Q.**    Do you see there's a date in the upper right-hand corner,  
5   March 29, 2007? Does this refresh your recollection that  
6   Mr. Stein was the chairman of the Apache Software Foundation in  
7   or about 2007?

8     **A.**    Yeah. It appears that's the case.

9     **Q.**    All right. And Mr. Stein is also an employee of Google;  
10   is that right?

11    **A.**    I don't know if he was at the time.

12    **Q.**    Have you ever been aware that Mr. Stein was an employee of  
13   Google?

14    **A.**    Yes.

15    **Q.**    During what period of time do you understand that  
16   Mr. Stein was an employee of Google?

17    **A.**    I don't remember the dates.

18    **Q.**    Was Mr. Stein also a member of Apache?

19    **A.**    Yes, he was.

20    **Q.**    Was there a mailing list for the members of apache.org?

21    **A.**    Yes.

22    **Q.**    Were you a recipient of emails on that mailing list?

23    **A.**    I was, yes.

24    **Q.**    Was it your understanding that generally the members were  
25   recipients of emails on that mailing list?

**MAZZOCCHI - DIRECT / HURST**

1     **A.**    Yes.

2     **Q.**    I'm approaching you, sir, with Exhibit 5046. All right.  
3     Do you see there, sir, that this is an email thread with -- in  
4     which you participated?

5     **A.**    Yes. It appears to be the case.

6     **Q.**    And it's an email thread in which you participated with  
7     Sam Ruby; is that right? If you look on the second line of the  
8     first page.

9     **A.**    Right. Yes.

10    **Q.**    And it's also copied to the mailing list  
11    members@apache.org; right?

12    **A.**    Yes. It was sent to the members.

13    **Q.**    Sent to them. Sorry. Exactly. And the email is dated  
14    April 17, 2008?

15    **A.**    Yes.

16    **Q.**    And you received this and responded to it at the time; is  
17    that true, sir?

18    **A.**    I don't have any recollection of sending or receiving this  
19    email, but the document seems to indicate that's the case.

20    **Q.**    Is your recollection sufficient for you to deny having  
21    participated in this email thread?

22    **A.**    No. I don't deny it.

23            **MS. HURST:** Your Honor, I move the admission of  
24    Exhibit 5046.

25            **THE COURT:** Is this the one we talked about earlier?



## MAZZOCCHI - DIRECT / HURST

1           **MS. HURST:** Yes, it is.

2           **THE COURT:** Has it been redacted?

3           **MS. HURST:** Yes, it has.

4           **THE COURT:** Received into evidence, 5046.

5       (Trial Exhibit 5046 received in evidence)

6       **BY MS. HURST:**

7       **Q.** I would like you to look at page 2 -- first let's look at  
8       page 3 of the email, Exhibit 5046, there at the very end. Do  
9       you see, sir, it's got your name. That's *Stefano* -- I don't  
10      want to mispronounce it. I apologize.

11      **A.** Stefano.

12      **Q.** Stefano. Okay. Thank you.

13           And it has a single *greater than* sign next to your name.  
14      Do you see that?

15      **A.** Yes.

16      **Q.** And it's your understanding that that means -- in the  
17      response where there's a single *greater than* symbol, that means  
18      it's something that you typed; right?

19      **A.** That's right.

20      **Q.** All right. So let's look at page 2, please. And in the  
21      middle of the page there, sir, you see there's a paragraph that  
22      starts with the words, "I was working" and there's a greater --  
23      just a single *greater than* symbol there. Do you see that?

24      **A.** I do.

25      **Q.** So correct me if I read this wrong, sir, but you wrote:

## MAZZOCCHI - DIRECT / HURST

1 "I was working under the assumption that we could ignore the  
2 trademarks, paren, avoid stating that we are compatible, end  
3 paren, use the org.apache.java plus classload trick to avoid  
4 the java.\* namespace and pretend that we don't know of any IP  
5 that we infringe until explicitly mentioned. But what I was  
6 missing is the fact that the copyright on the API is real and  
7 hard to ignore."

8 You wrote that, sir; is that right?

9 **A.** I have no recollection of writing it, but this document  
10 seems to indicate I did.

11 **Q.** All right. And you further wrote: "Simply by  
12 implementing a class with the same signature of another in  
13 another namespace and simply by looking at available Javadocs  
14 could be considered copyright infringement, even if the  
15 implementation is clean room." You wrote that, sir; am I  
16 right?

17 **A.** Same answer as before.

18 **Q.** And you wrote, "So we are in fact infringing on the spec  
19 lead copyright if we distribute something that has not passed  
20 the TCK and, asterisk, we know that, asterisk." You don't  
21 remember writing that?

22 **A.** I don't. I write a lot of emails, and this was eight  
23 years ago.

24 **Q.** Well, sir, certainly being a member of Apache was  
25 something that you were proud of, wasn't it?

**MAZZOCCHI - DIRECT / HURST**

1     **A.**    Yes.

2     **Q.**    And you believed it did good work?

3     **A.**    I did.

4     **Q.**    And you wanted to satisfy the purpose of sheltering the  
5 individuals who participated from legal risks, didn't you?

6     **A.**    Absolutely.

7     **Q.**    And you, in order to fulfill that purpose, gave your  
8 honest opinion on the members@apache.org list; isn't that true,  
9 sir?

10    **A.**    That is correct.

11           **MR. KWUN:** Your Honor, before we go further, I think  
12 we agreed there would be a limiting instruction associated with  
13 this document with the admission.

14           **THE COURT:** All right. I hope I get it correct.  
15 Correct me if I'm wrong.

16           This is a document that was written inside of the Harmony  
17 project, Apache project, about Harmony, and it is one of  
18 Oracle's responses to other evidence in the case in which  
19 Google has laid before you evidence that programmers thought it  
20 was okay to use the declaring lines of code so long as they  
21 reimplemented, and this is internal to Harmony, at least so  
22 far, to show that arguably there was a counterview to that  
23 viewpoint.

24           And is that the limiting instruction?

25           **MR. KWUN:** Not for the truth of the matter asserted,

1 Your Honor.

2 **THE COURT:** That's what I mean. It's not for the  
3 truth of the matter asserted. I should have started out with  
4 that.

5 This witness and whoever wrote this was not a lawyer.  
6 It's not being offered for the truth of what was asserted, and  
7 so you could not use this to conclude that it was copyright  
8 infringement or not. That would not be proper.

9 But it can be used to show the state of mind of somebody  
10 within the Apache project, which state of mind is relevant to  
11 meet the state of mind evidence as put in by the Google side on  
12 the same general subject.

13 So that's the limiting instruction. Thank you. All  
14 right. Let's continue.

15 **MS. HURST:** All right. Thank you, Your Honor.

16 **Q.** Now, sir, that email was in April of 2008. Was there a  
17 time in 2007 when you became aware of a dispute between Sun and  
18 Apache about whether Sun would grant a TCK license for the  
19 Harmony project?

20 **A.** Yes.

21 **Q.** And is it true that there was a debate within Apache as to  
22 whether Apache might go ahead and release the Harmony code  
23 anyway?

24 **A.** Yes.

25 **Q.** And is it true, sir, that you, in the context of that

**MAZZOCCHI - DIRECT / HURST**

1 debate, said that you would never consider such an option?

2 **A.** I don't recall having stated that.

3 **Q.** Is it true that you were personally happy to just keep  
4 on --

5 **MR. KWUN:** Your Honor, I believe she is reading from a  
6 document that is not in evidence.

7 **THE COURT:** You can't do that. You have to ask him  
8 what he said. When he says he doesn't remember, show him the  
9 document, but just reading from that is too transparent so --

10 **MS. HURST:** All right, Your Honor. I'll do that.

11 **THE COURT:** You can use it to refresh his memory as to  
12 what he said at the time.

13 **MS. HURST:** Thank you, Your Honor.

14 **THE COURT:** But it has to actually refresh his memory.

15 **BY MS. HURST:**

16 **Q.** Mr. Mazzocchi, please go ahead and read the email and let  
17 me know when you're finished.

18 **A.** (Witness reads document.)

19 Okay.

20 **Q.** Mr. Mazzocchi, is it true that in or about April 2007,  
21 when there was a dispute between Harmony and Sun, you believed  
22 that it would not be the right thing to do to release Harmony  
23 and risk liability for both Apache and the users of the Harmony  
24 project?

25 **MR. KWUN:** Your Honor, this is still basically the

**MAZZOCCHI - DIRECT / HURST**

1 same as reading the document.

2 **THE COURT:** Well, let's get the answer from the  
3 witness first and then I'll give an admonition to the jury.

4 All right. What's the answer?

5 **THE WITNESS:** I'm sorry. Can you repeat the question  
6 for me?

7 **BY MS. HURST:**

8 **Q.** Absolutely. Is it true that in or about April 2007 when  
9 there was the dispute between Sun and Apache, you believed that  
10 it was not the right thing to do to release Harmony and that  
11 you would prefer to just keep working on it internally rather  
12 than risking both Apache and the users of Harmony liability?

13 **A.** The Harmony PMC was tasked to implement a fully compatible  
14 Java implementation, and we knew we had to pass the TCK to do  
15 that, to call it Java and to be compatible and have access to  
16 the entire set of IPs. We were focused on that at the time.

17 **THE COURT:** All right. Here is the admonition.  
18 Remember, I told you at the outset of the trial that what the  
19 lawyers say is never evidence. So Ms.Hurst asked a very  
20 specific question. The witness gave not so clear an answer,  
21 but -- he didn't quite answer the question, but he did give an  
22 answer. It's the answer that the witness gave that counts and  
23 not the suggestion made by Ms.Hurst in her question. That's  
24 not evidence. Now -- at least at this point.

25

**MAZZOCCHI - DIRECT / HURST**

1 **BY MS. HURST:**

2 **Q.** Mr. Mazzocchi, is it true that in the course of that  
3 dispute with Sun, it was your view that Harmony should not be  
4 released, risking both Apache and the downstream users? Is  
5 that true, sir?

6 **A.** Yeah. We couldn't call something Java that wasn't Java.

7 **Q.** And later, as we saw in Exhibit 5046, you realized it was  
8 not just a trademark problem, it was a copyright problem, too,  
9 didn't you?

10 **A.** There was an entire set of intellectual property that Sun  
11 was using as leverage for the whole Java Community Process.  
12 That included trademarks, copyrights, and patents. That was my  
13 understanding at the time.

14 **Q.** All right. And then there came a time, sir, when you were  
15 aware that Oracle had acquired -- had announced that it would  
16 acquire Sun; is that right?

17 **A.** Yes.

18 **Q.** And we have a stipulated timeline here on the board  
19 between the parties that that was in April 2009. Is that  
20 consistent with your recollection?

21 **A.** I honestly don't remember the timeline.

22 **Q.** Let me approach with 9201 to see if that helps you  
23 remember.

24 **A.** Thank you.

25 **THE COURT:** And the question is the time of the

## MAZZOCCHI - DIRECT / HURST

1 acquisition?

2 **MS. HURST:** Yes. Or the announcement of the  
3 acquisition.

4 **THE COURT:** Does that document help you bring to mind  
5 the date of the acquisition?

6 **THE WITNESS:** It does. It checks out.

7 **THE COURT:** What was the date of the acquisition?

8 **THE WITNESS:** The email was sent on April 20th, 2009.

9 **BY MS. HURST:**

10 **Q.** All right. Is it true, sir, that when you heard about the  
11 Oracle acquisition, you were concerned that Oracle would seek  
12 to enforce its intellectual property against Android?

13 **MR. KWUN:** Objection, Your Honor. Can we first get  
14 some foundational questions to establish that he remembers  
15 anything about any of this?

16 **THE COURT:** Well --

17 **MR. KWUN:** She has put a document before him. She  
18 hasn't established that he has any recollection of this  
19 document. The document is not in evidence. I don't want  
20 the --

21 **THE COURT:** Well, I can't do everything at once. I've  
22 told the jury that not a word Ms.Hurst says or not a word you  
23 say, not a word any lawyer says is ever evidence, but I've got  
24 to find out what the witness says. Maybe the witness will say  
25 yes. So answer the question first.



## MAZZOCCHI - DIRECT / HURST

1           **THE WITNESS:** Could you repeat the question for me.

2       I'm sorry.

3       **BY MS. HURST:**

4       **Q.** Yes. Is it true that when you heard about the  
5       announcement of Oracle's acquisition at Sun, that one of the  
6       things you became concerned about was Oracle enforcing Sun's  
7       intellectual property against Android?

8       **A.** I don't recall having written this.

9       **Q.** Is your recollection sufficient for you to deny that you  
10      wrote it?

11      **A.** I don't deny I wrote it.

12      **Q.** It's got your name on it?

13      **A.** That's right.

14           **MR. KWUN:** Objection, Your Honor. This is beyond the  
15      scope that was agreed to this exhibit.

16           **MS. HURST:** Your Honor, if I may.

17      **Q.** Mr. Mazzocchi, did you meet with Google's lawyers before  
18      coming to testify here?

19           **MR. KWUN:** Objection, Your Honor. 403.

20           **THE COURT:** Overruled.

21      **BY MS. HURST:**

22      **Q.** Did you meet with Google's counsel before coming to  
23      testify here today?

24      **A.** I did.

25           **THE COURT:** It does not refresh his memory, so --

## MAZZOCCHI - DIRECT / HURST

1 BY MS. HURST:

2 Q. Mr. Mazzocchi, do you deny that you were concerned that  
3 Oracle would enforce Sun's intellectual property against  
4 Android?

5 MR. KWUN: Objection, Your Honor. Foundation.

6 THE COURT: Overruled.

7 THE WITNESS: I don't deny it.

8 BY MS. HURST:

9 Q. Have you ever used the phrase *ripping off* to describe  
10 intellectual property infringement?

11 A. I don't --

12 THE COURT: Why don't you rephrase that. You're  
13 larding in too much argument. Why don't you say *did you ever*  
14 *use the phrase ripping off*.

15 BY MS. HURST:

16 Q. All right. Did you ever use the phrase *ripping off*?

17 A. Probably.

18 Q. It's a fairly -- strike that. Withdrawn.

19 Sir, did you ever describe Android's use of Sun's  
20 intellectual property as ripping them off?

21 MR. KWUN: Objection, Your Honor. 403.

22 THE COURT: Overruled. Please answer.

23 THE WITNESS: Don't recall.

24 BY MS. HURST:

25 Q. Do you deny describing Android's use of Sun's intellectual

**MAZZOCCHI - CROSS / KWUN**

1 property as ripping them off?

2 **A.** If I don't know if I said it, I can't deny it.

3 **MS. HURST:** Your Honor, I move to admit the document.

4 **THE COURT:** We'll have to have a discussion outside  
5 the presence of the jury since it was not a designated  
6 document.

7 **MS. HURST:** Thank you, Your Honor.

8 **THE COURT:** The only way it could come in is if it's  
9 proper impeachment and that requires an argument with the  
10 judge, and meanwhile, the jury will not infer anything about  
11 what's in the document. That would be improper. So you must  
12 remember what the lawyer says is not evidence. It's what the  
13 witness says.

14 All right. Are we done with the witness now?

15 **MS. HURST:** I'm done, except for this issue,  
16 Your Honor.

17 **THE COURT:** All right. Thank you. Let's have the  
18 other side's examination.

19 **CROSS-EXAMINATION**

20 **BY MR. KWUN:**

21 **Q.** Mr. Mazzocchi, are you a lawyer?

22 **A.** I am not.

23 **Q.** To what extent, if at all, do you have any specialized  
24 legal training?

25 **A.** I don't.

## MAZZOCCHI - CROSS / KWUN

1 Q. Have you ever held yourself out as an expert in copyright  
2 law?

3 A. No.

4 Q. How often, if at all, did people at Apache ask you for  
5 legal advice?

6 A. Never. Never.

7 Q. So thinking back to April of 2008, what, if anything, did  
8 you know about fair use in copyright law?

9 A. I don't recall knowing anything about that.

10 Q. Did you know what the legal standard is for fair use?

11 A. I don't -- didn't and still don't.

12 Q. After the email exchange with Mr. Ruby, did you resign as  
13 a member from the Apache Software Foundation?

14 A. No.

15 Q. And what, if anything, do you conclude from the fact that  
16 you did not resign your membership after that email?

17 A. I really cared about my involvement in Apache. I mean,  
18 this was all volunteer work, and I really wanted the foundation  
19 to do the right thing for protection of the membership and also  
20 for protection of the users.

21 I would have left slamming the door if I thought that what  
22 the foundation was doing was causing harm or doing any illegal  
23 things.

24 So since I wrote these email, I must have changed my mind,  
25 something must have changed my mind whether that was the case.

**SIDEBAR**

1 And I didn't leave.

2 **Q.** And at the time you wrote that email, were you authorized  
3 to speak on behalf of the Apache Software Foundation as its  
4 spokesperson?

5 **A.** No.

6 **Q.** We heard some testimony about Greg Stein. Do you remember  
7 that?

8 **A.** Yes.

9 **Q.** Was Greg Stein a participant in the Apache Harmony  
10 project?

11 **A.** No.

12 **Q.** How many projects, approximately speaking, were there at  
13 the Apache Software Foundation at that time?

14 **A.** I don't remember the exact number, but 20, 30, maybe.

15 **MR. KWUN:** No further questions, Your Honor.

16 **MS. HURST:** Your Honor, may I have a sidebar?

17 **THE COURT:** All right.

18 (The following proceedings were heard at the sidebar:)

19 **THE COURT:** Okay.

20 **MS. HURST:** Because the witness just testified that  
21 something changed his mind, I would like to elicit the fact  
22 that he became employed by Google the year following these  
23 exchanges. He met with Google's counsel. They just opened the  
24 door to it, Your Honor. He came and said he changed his mind.

25 **MR. KWUN:** Your Honor, he was talking about the time

## SIDEBAR

1 period -- the question asked first whether he had resigned from  
2 the Apache Software Foundation as a result of this email and  
3 whether he drew any conclusions from the fact that he did  
4 not --

5 **THE COURT:** When did he leave the Apache?

6 **MR. KWUN:** He said he took emeritus status in 2009.  
7 He joined Google in 2010.

8 **THE COURT:** I think his testimony was that he would  
9 have left sooner if he thought there was anything illegal going  
10 on and --

11 **MS. HURST:** But he left shortly after this email,  
12 Your Honor. I mean, they can't have it both ways. Either he  
13 left immediately after he wrote an email writing we're ripping  
14 people off or he decided -- he changed his mind later, once he  
15 went to Google. One way or the other, I should be --

16 **THE COURT:** I thought he said something must have  
17 changed his mind. He said before he left because he said  
18 that's not why he left.

19 **MS. HURST:** Right. But, Your Honor, look, he says he  
20 left in 2009 and that's when he wrote the email about ripping  
21 off the IP and getting away with it. They've just elicited the  
22 testimony. Oh, he changed his mind. That's why he left.

23 **MR. KWUN:** Your Honor, my question --

24 **MS. HURST:** Let me finish, please.

25 It's a reasonable inference that he left because he did

## SIDEBAR

1 believe they were ripping him off. That's directly response.

2 **THE COURT:** Just a second.

3 Pam, do you have on your machine there what the witness  
4 said on the cross-examination.

5 (Record read as follows:

6 "Q. After the email exchange with Mr. Ruby, did you  
7 resign as a member from the Apache Software Foundation?

8 "A. No.

9 "Q. And what, if anything, do you conclude from the fact  
10 that you did not resign your membership after that email?

11 "A. I really cared about my involvement in Apache. I  
12 mean, this was all volunteer work, and I really wanted the  
13 foundation to do the right thing for protection of the  
14 membership and also for protection of the users. I would  
15 have left slamming the door if I thought that what the  
16 foundation was doing was causing harm or doing any illegal  
17 things. So since I wrote these email, I must have changed  
18 my mind, something must have changed my mind whether that  
19 was the case. And I didn't leave.)

20 **THE COURT:** Here's the problem. It's not the one that  
21 Ms. Hurst raises. He refers to *these email*, which, to my mind,  
22 is plural. And so he has now given the explanation without the  
23 jury getting the benefit of what's in the emails, so I'm going  
24 to hold that he has opened the door to allowing these emails to  
25 be put in evidence because he has given the rebuttal without

## PROCEEDINGS

1 the jury seeing them.

2 I'm sorry, but your own questions opened the door. It's  
3 not the point Ms.Hurst made, but it's the point I believe is  
4 correct. So these two documents will now come into evidence.  
5 Thank you.

6 **MR. KWUN:** To be clear, she still does not elicit  
7 testimony about his employment at Google?

8 **THE COURT:** That's correct.

9 (Sidebar conference ended)

10 **THE COURT:** What are the two documents?

11 **MS. HURST:** Your Honor, 9200 and 9201, I move their  
12 admission.

13 **THE COURT:** Received in evidence. And the reason is  
14 even though the witness couldn't remember them, on testimony  
15 asked by Mr. Kwun, the witness referred to emails -- he said  
16 *since I wrote theses emails, something must have changed my*  
17 *mind.*

18 Well, it's not fair for him to give a rebuttal and give  
19 that explanation without you seeing what was actually in there.  
20 So I'm sorry, but that's going to come into evidence now. 9200  
21 is in. 9201 is in.

22 (Trial Exhibits 9200 and 9201 received in evidence)

23 **MR. KWUN:** Your Honor, I would request a limiting  
24 instruction again for these, especially for the --

25 **THE COURT:** Yes. The same instruction goes with it.



**MAZZOCCHI - REDIRECT / HURST**

1 This witness is not a lawyer, but it goes to the state of mind  
2 concerning what was the custom and practice among people who  
3 were programmers and developers, and it is more evidence you  
4 could consider as to what was the accepted practice as to  
5 whether or not declaring lines of code could be copied without  
6 restriction. And of course you have to consider all the other  
7 evidence that the witness has given and not just focus on one  
8 line in an email. But nevertheless, it's evidence you should  
9 consider. So there we are. Please, those two are in evidence.  
10 Anything more?

**REDIRECT EXAMINATION**

11  
12 **BY MS. HURST:**

13 **Q.** Trudy, please display 9201.

14 Mr. Mazzocchi -- Trudy, we just need it down to the  
15 paragraph, the bigger question. Let's see if we can just blow  
16 up from there. Okay. Let's get the date in, too. Sorry.

17 So, Mr. Mazzocchi, you wrote an email after the  
18 announcement that Oracle bought Sun saying, "The bigger  
19 question in my mind is not about hardware. What is Oracle  
20 going to do with 500 million Java powered cell phones? What is  
21 Oracle going to do about Android's ripping off some of now  
22 their IP and getting away with it."

23 Did you write that email, sir?

24 **A.** I have no recollection of writing it, but I don't deny  
25 writing it.

## PROCEEDINGS

1 **Q.** All right. And do you need to be a lawyer to figure out  
2 when you think you're ripping somebody off?

3 **A.** Yes.

4 **MS. HURST:** No further questions.

5 **THE COURT:** All right. Anything more, Mr. Kwon?

6 **MR. KWUN:** No further questions.

7 **THE COURT:** What? None? Okay. Are we done with this  
8 witness?

9 **MS. HURST:** Yes, Your Honor.

10 **MR. VAN NEST:** Yes, Your Honor.

11 **THE COURT:** We will now take a break. Thank you.  
12 Thank you Mr. Mazzocchi.

13 We'll take a break and 15 minutes.

14 (Proceedings were heard out of presence of the jury:)

15 **THE COURT:** Anything the lawyers need the Court for?

16 **MR. VAN NEST:** I don't believe so, Your Honor.

17 **THE COURT:** All right. I have a couple of things I  
18 want to bring up with you just going ahead. I think I'd like  
19 to let you approve of letting the jurors take their notepads  
20 home to -- with them so they can study them over the weekend.  
21 Some of them have been staying late each day reading their  
22 notepads in the jury room. I'm not going to tell you who, but  
23 more than one. They don't talk. They just sit in there  
24 reading their notepads.

25 They're struggling desperately to understand this case.

## PROCEEDINGS

1 It's one of the most conscientious groups of jurors I have ever  
2 seen. I think it would behoove everyone to at least understand  
3 what they wrote down in their notepads, but I don't want to  
4 give them permission to do that unless both sides agree. You  
5 think about it and let me know.

6 The other thing is I'm close to having a draft set of jury  
7 instructions to send you, but if I send it to you today, one  
8 side or the other is going to criticize me for doing it before  
9 the case has ended, and I don't want to be criticized for that.  
10 If you want, I'll wait until the very last minute and give it  
11 to you then because, you know, I do think I might change my  
12 mind about something when I hear all the evidence. But then  
13 you won't get but 10 minutes to review it before the charging  
14 conference. What you do want me to do?

15 **MR. BICKS:** I think sooner. We don't have any problem  
16 with that.

17 **MR. VAN NEST:** Of course not. Send them out,  
18 Your Honor.

19 **THE COURT:** I will send them out today, and we will  
20 have the charging conference on Thursday. And it's subject to  
21 more to come into trial, of course. I understand that. And  
22 it's based on what I've seen up to today.

23 All right. I have a third idea for you. I would also  
24 only do this if both sides agreed. I'm thinking that maybe it  
25 would be good to give the jury, after the closing arguments or

## PROCEEDINGS

1 during your closing arguments, one page from each side, back  
2 and front, in a font size you both would agree on, of your top  
3 20 hits or top 30, whatever you can squeeze on the front and  
4 back and give the exact quote. It would have to be the entire  
5 answer from testimony. It would have to be the entire  
6 paragraph and question. And you can highlight the key part,  
7 but to avoid a context problem, you'd have to have the -- but  
8 if it's the next paragraph, no, it doesn't come in. So it  
9 would have to be the entire paragraph, entire answer, and  
10 identify who it is and what document it is.

11 That way you would have in the jury room a cheat sheet  
12 that the jurors could look at for your best 20 points or 30  
13 points, whatever you could squeeze into the front and back of  
14 one page. So one would say Oracle, one would say Google.

15 No argument on it at all. It would just be like TX 5046,  
16 Mazzocchi, and then it would quote the key paragraph, if that's  
17 one of your top 20.

18 So think about it. If you both agreed, I would let you do  
19 that, but sometimes lawyers say, *No, no, no. My closing*  
20 *argument is going to be better than their closing argument. I*  
21 *don't want to give them any edge like that.* So they don't want  
22 to do that. But in a case like this with so many hundreds of  
23 documents and so much testimony, it might be worthwhile.

24 Think about it and let me know. You don't have to decide  
25 that for a few days.

## PROCEEDINGS

1           **MR. VAN NEST:** Could I ask a question about what  
2 Your Honor just proposed?

3           **THE COURT:** Yes.

4           **MR. VAN NEST:** It includes documents and you could  
5 excerpt the paragraph. It also includes the witness Q and A  
6 also?

7           **THE COURT:** Correct. It would be the question and  
8 then the answer. It could even just be the answer if the  
9 answer was clear enough.

10          **MR. VAN NEST:** Okay.

11          **THE COURT:** But you've probably got to put the  
12 question in there.

13          **MR. VAN NEST:** Thank you.

14          **THE COURT:** So you could have both. Yes.

15          **MR. VAN NEST:** Thank you.

16          **THE COURT:** Think about it.

17          **MR. VAN NEST:** We will.

18          **THE COURT:** All right. We will take 15 minutes.

19          **MR. BICKS:** Can I ask a question, Your Honor, just in  
20 terms of time? Obviously both sides have been working hard to  
21 adhere exactly to your time limits. As I'm seeing,  
22 particularly with this witness and the -- you know, the  
23 instructions and so on and so forth and the, you know, absence  
24 of recollection on emails and things like that, I'm wondering  
25 is there any way -- I see us getting a little bit jammed as

## PROCEEDINGS

1 we're coming down the stretch here, and I also see tomorrow, if  
2 we go on and stick to our schedule, that we would be finished  
3 well, well in advance of the end of the day.

4 Can I ask the Court if we can have just a little bit more  
5 time? And I'm not asking for a huge amount of time, but, say,  
6 for example, a half an hour just because of some of the back  
7 and forth --

8 **THE COURT:** Are you taking into account the rebuttal  
9 case?

10 **MR. BICKS:** Yes.

11 **THE COURT:** If you both were to agree that you could  
12 take 30 minutes from the damages phase of the case and use it  
13 in this phase of the case and you both agreed and there was  
14 going to actually be time to get it all done tomorrow, sure,  
15 I'd be fine with that, but I would not want to do that if it's  
16 going to run past 1:00.

17 **MR. BICKS:** I think as the way the time works, if you  
18 look at it, that there is no possibility of that happening.

19 **THE COURT:** Well, but things happen. In theory,  
20 you're right. But things go wrong.

21 You two talk about it. Don't count on any of that yet  
22 until you present it to me and then we could actually do it by  
23 1:00.

24 **MR. BICKS:** Thank you.

25 **THE COURT:** All right. Okay.

## PROCEEDINGS

1 (Recess taken at 11:12 a.m.)

2 (Proceedings resumed at 11:23 a.m.)

3 (Proceedings were heard out of presence of the jury:)

4 **THE COURT:** All right. Ready?

5 **MR. VAN NEST:** Yes, Your Honor.

6 **MR. BICKS:** Yes.

7 **THE COURT:** Let's bring back our jury.

8 **MR. VAN NEST:** Your Honor, could I have a few moments?

9 We got a witness disclosure last night that listed all the  
10 witnesses in order. We have a very, you know -- set of  
11 prepared material. I have just been informed right now that  
12 the next expert witness they want to drop and move on to the  
13 following. So I would like a few minutes to prepare for that,  
14 if possible. This is completely out of -- out of the blue. I  
15 got the list last night.

16 **THE COURT:** But is the one they want to call on the  
17 list?

18 **MR. VAN NEST:** Oh, yeah.

19 **MR. BICKS:** Yes.

20 **MR. VAN NEST:** He is. But he's the last expert on the  
21 list, and they had listed another expert ahead of him, and  
22 they've just advised me right now that they want to drop him.

23 **MR. BICKS:** Right. We're concerned about time,  
24 Your Honor. I asked Mr. Van Nest if he would agree to another  
25 half hour. He said he wouldn't. Under my calculation, we

## PROCEEDINGS

1 would end at 11:00 tomorrow with the rebuttal case, and he's  
2 unwilling to yield any time. We're going by your clock. We're  
3 dropping an expert, who we would otherwise call. It was going  
4 to be 15 to 20 minutes. And so we are going to go to the next  
5 witness.

6 **THE COURT:** How long will that direct be?

7 **MR. BICKS:** It's about an hour.

8 **THE COURT:** That will be enough time, won't it?

9 **MR. VAN NEST:** I think so, Your Honor. That's fine.

10 **THE COURT:** So you will have an hour to think about it  
11 as it unfolds before our very eyes.

12 **MR. VAN NEST:** Very good.

13 **THE COURT:** So you're a great lawyer. You can do it.

14 **MR. VAN NEST:** I assume the dropping of Dr. Kemerer is  
15 final. They're not going to bring him back.

16 **THE COURT:** I don't know if it's final. Is it? Maybe  
17 they'll bring him back.

18 **MR. BICKS:** We may bring him back.

19 **THE COURT:** Maybe he will have 15 minutes.

20 **MR. BICKS:** If we have time at the end. But at this  
21 point, we're concerned --

22 **THE COURT:** I don't think I have to tell them they  
23 have to make a final decision on that. They might economize in  
24 some other way.

25 **MR. VAN NEST:** Thank you, Your Honor.



**JAFFE - DIRECT / BICKS**

1           **THE COURT:** Let's bring back our jury.

2           (Proceedings were heard in the presence of the jury:)

3           **THE COURT:** Next witness.

4           **MR. BICKS:** Your Honor, Oracle will call Dr. Adam  
5 Jaffe.

6           **THE COURT:** Welcome. Raise your right hand, please.

7           **ADAM JAFFE, PLAINTIFF WITNESS, SWORN**

8           **THE CLERK:** Please state your name for the Court and  
9 spell your last name for the record.

10          **THE WITNESS:** My name is Adam Jaffe, J-A-F-F-E.

11          **THE COURT:** All right. Welcome. And you're already  
12 doing the mic correctly. Why don't you pour yourself some  
13 water.

14                           **DIRECT EXAMINATION**

15          **BY MR. BICKS:**

16          **Q.** Dr. Jaffe, please introduce yourself to the jury. Don't  
17 dump the water over. And tell them a little bit about  
18 yourself.

19          **A.** At some time this morning, I probably will dump the water  
20 over.

21               I'm Adam Jaffe, good morning.

22          **Q.** What do you do for a living?

23          **A.** I'm an economist.

24          **Q.** Please share for the jury your educational background?

25          **A.** So I have an undergraduate degree from MIT and Master's

1 degree from MIT and then I have a Ph.D. in economics from  
2 Harvard.

3 **Q.** What did you do after you got your Ph.D., sir?

4 **A.** So when I finished my Ph.D. at Harvard, I stayed on there  
5 and was on the faculty in the economics department as an  
6 assistant professor and then an associate professor from 1985  
7 to 1994.

8 **Q.** And did you hold any other positions between 1985 and  
9 1994?

10 **A.** I did. In 1990, I took a year's leave from Harvard and I  
11 went to Washington and served on the staff of the President's  
12 Council of Economic Advisers.

13 **Q.** Share with our jury what the Council of Economic Advisers  
14 is?

15 **A.** So the CEA is an organization within the Executive Office  
16 of the President which advises the President and the other  
17 executives offices on economics as it relates to public policy.

18 **Q.** Have you written books and articles on economics?

19 **A.** I have. I have coauthored or authored two books and about  
20 80 scholarly papers.

21 **Q.** And has your work as an economist been ranked against  
22 those of other economists?

23 **A.** Yeah. Economists like to measure things and like to rank  
24 things, so there is actually a website which is hosted by the  
25 Federal Reserve Bank of St. Louis which ranks all of the

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1 economists in the world who write in English based on their  
2 scholarly publications and the impact that those publications  
3 have had, and on that website, I'm ranked in the top one  
4 percent of all the economists in the world.

5 Q. And what role did you perform in this case?

6 A. I was asked to look at, from an economic perspective, what  
7 can be said about the factors relating to fair use.

8 Q. And have you prepared a summary graphic of your opinions  
9 that will be a guide for us?

10 A. I have.

11 Q. So can we go to that. You have the clicker.

12 A. Okay. That's me. And then that's the summary.

13 Q. And can you just walk the jury through each part of this,  
14 and let's move through it because we're going to get to the  
15 substance, but --

16 A. Right.

17 Q. Each of your points here.

18 A. Above the line is just kind of an economic overview, and  
19 what I've concluded is that if Google had not copied the 37  
20 Java API packages, the consequence for Android very likely  
21 would have been that it would not have been successful, and  
22 that from the Java perspective, they were poised to enjoy  
23 success in mobile, which was then undermined by the  
24 introduction of Android.

25 Then moving to the bottom part of the slide, this is where

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1 I try to think about fair use from an economics perspective,  
2 and we'll go into the detail, the reasoning. But what I've  
3 concluded is that this use was highly commercial, was a  
4 substitute for the Java API packages, and on that basis, was  
5 not transformative and that it causes significant harm to both  
6 the actual and potential markets for the Java API packages.

7 **Q.** And what parts of your experience and background did you  
8 draw on to reach these opinions?

9 **A.** So as an economist, in my research, in my teaching, and in  
10 consulting work that I do for companies and for government  
11 agencies, for about 30 years, I've been involved in looking at  
12 the interaction of innovation and competition in markets based  
13 on a variety of different kinds of data, and that's pretty much  
14 the kind of analysis I did here, applied to the facts of this  
15 situation.

16 **Q.** And did you work with a team here?

17 **A.** I did.

18 **Q.** And is it common practice in your research to have others  
19 work with you?

20 **A.** Yeah. In economics and really in much of science these  
21 days, most research is actually done in teams. In my academic  
22 research, I work with research assistants, I work with  
23 collaborators, and I did basically the same thing here. There  
24 were people at Keystone who I worked with and I directed the  
25 work. I reviewed everything in its final form, and that was

1 how I was able to complete the work.

2 **Q.** And please describe intellectual property to a  
3 noneconomist.

4 **A.** So from an economic perspective, intellectual property is  
5 really a way of protecting the stuff that people create with  
6 their brains. So we can think of it as property of the mind.

7 **Q.** And the Court has told the jury that the API packages here  
8 are protected by the copyright laws. As an economist, what, if  
9 any, are the benefits of copyright protection?

10 **A.** So from an economic perspective, the reason we want to  
11 have copyright protection is because we, as members of society,  
12 all benefit from everyone else's creativity and we want those  
13 creative people to have an incentive to engage in those  
14 activities, and copyright is a way of protecting that  
15 incentive.

16 **Q.** Contrast for us protecting intellectual property, for  
17 example, with a car, protecting your car.

18 **A.** The thing from an economic perspective that's key about  
19 intellectual property is that it's not something tangible.  
20 It's not a physical thing. If I have a car and I don't want it  
21 to get stolen, I can lock it, I can put it in a garage, I can  
22 lock the garage. If I have an idea, an invention, a creation  
23 and I want to get the benefit of it, usually to get that  
24 benefit, I need to share it with people. That's how I get the  
25 benefit of my property of the mind, is by sharing it. And once

1 I've shared it, other people could then just use it, and so we  
2 need some kind of mechanism to allow creators to control the  
3 property that they create.

4 **Q.** And what are those mechanisms?

5 **A.** Well, usually the way it works -- I'm not a lawyer, but  
6 from an economic and business perspective, the way it works is  
7 there are contracts, and in this case, the contracts are  
8 frequently called licenses, and we've heard a lot of references  
9 in the testimony to licenses.

10 A license is just a contract that the owner, the  
11 creator -- the owner of the intellectual property uses to  
12 control the way in which it's used so that they can retain the  
13 benefit of having created it.

14 **Q.** Are there basic economic concepts that you've identified  
15 as important to this case?

16 **A.** Yes. In particular, because of the nature of Java and the  
17 nature of Android, we need to talk about what economists call  
18 platform economics.

19 **Q.** And what connection, if any, does Java have to platform  
20 economics?

21 **A.** So I'm going to show that in a demonstrative here. So  
22 from an economic perspective -- and I'm talking as an  
23 economist -- here is how I think about Java. There's a group  
24 of people which I'll just call developers. These are the  
25 people who want to write applications for given devices. And

1 there's a group of people or companies which are the makers of  
2 devices and -- and mobile phone carriers who want to sell or  
3 use actual devices, sell them to their customers and have their  
4 customers use the networks.

5 And these two groups need each other. So the developers  
6 need device makers to use their applications on their devices  
7 so -- because that's how the developers make money, is when the  
8 applications are used on the device.

9 And the device makers need the developers because part of  
10 what makes a phone or any -- really any device like that  
11 valuable is the ability of the users of the device to have  
12 applications for the phone, and without developers, there  
13 wouldn't be applications. So these two groups need each other,  
14 and Java sits between them.

15 And in the lingo of platform economics, a platform is any  
16 product or service that serves this function of linking  
17 together two different groups of people or companies  
18 economically who, in order to do what they want to do,  
19 economically need each other.

20 **Q.** And are there key economic concepts of a platform like  
21 this?

22 **A.** Yeah. There are three key concepts that are important to  
23 understand what happened here. And in economics, they're  
24 called network effects, expectations, and tipping points.

25 **Q.** And how do network effects work?

1   **A.**    So network effect is sort of the economics term for the  
2   fact that from the perspective, say, of the device makers, they  
3   really care how big is the network of developers to which  
4   they're connected through Java in this case. So the fact that  
5   they care about the size of the network we will call a network  
6   effect, and that's not true for many economic goods.

7   Frequently, you know, you buy a bottle of water, you don't care  
8   how many other people are buying water. So it's a property of  
9   network goods that on each side, people care about the size of  
10  the network.

11 **Q.**    And what about expectations? That was the second thing.

12 **A.**    So the reason expectations come in is if you think about a  
13 developer deciding am I going to write my apps on the Java  
14 platform or a device maker deciding am I going to make my phone  
15 a Java phone, that's, to some extent, a long-term decision.  
16 It's not a decision you're going to make today and then just do  
17 something completely different tomorrow.

18        So when you're making a long-term decision, I already said  
19 you care about the size of the network. Because you're making  
20 a long-term decision, you don't just care about the size of the  
21 network today. You care about how big you think it's going to  
22 be in the future. And that's where we use the word  
23 *expectations*.

24        So if I'm deciding, as a developer, am I going to write  
25 for Java, I'm going to think about how big is the network of



1 device makers using Java and how big do I think it's going to  
2 be in the future. And that's where expectations come in.

3 **Q.** What about tipping points? You mentioned that.

4 **A.** So when you bring together the network effects and  
5 expectations, you can have this phenomenon that economists and  
6 others refer to as tipping points. What that means is that as  
7 a market that has platforms in it evolves, it sort of has this  
8 dynamic property that success feeds success and failure breeds  
9 failure. And so what can happen in these markets is you can  
10 have a situation where, say, one or two or three platforms are  
11 competing, but a point comes when everyone realizes that one of  
12 them is going to be the winner, is going to be the one that's  
13 going to have the biggest network, and once that happens,  
14 everyone else wants to be with that network. No one wants to  
15 be with the one that is not going to be the winner. So the  
16 market can tip in a relatively short period of time towards or  
17 away from one platform.

18 **Q.** And what, if any, is the effect of timing on the  
19 likelihood of a platform's success?

20 **A.** So the importance of all of these things -- network  
21 effects, expectations and tipping points -- means if you want  
22 to compete in a platform market, it's a huge advantage to be  
23 there early and it's a huge disadvantage to come late because  
24 if you come there early, you can build your network and try to  
25 be the one that becomes the most -- the largest network. If

1 you come late, you're playing catch-up and you have a very hard  
2 time convincing people that your network is going to be big  
3 enough to be worth joining.

4 **Q.** Let's shift to Java and licensing. How does Java make  
5 money for Oracle?

6 **A.** So the way Java does that is through these licenses. But  
7 as we talked about, what the license does is basically give  
8 Java the ability to write a contract, control how its property  
9 is used, and it doesn't have to write the same contract with  
10 different users.

11 So what -- what has been done with Java is for the most  
12 part -- and I'm not going to go into the details here. I'm  
13 really talking about this from kind of an economic market  
14 perspective. I'm not a licensing expert or a lawyer, but from  
15 an economic perspective, what's been done with Java is it's  
16 licensed free to developers. They do -- they are supposed to  
17 take a license, but they don't have to pay anything. And the  
18 reason for that is because, as I described, the size of the  
19 developer network is what makes Java valuable.

20 So Sun and then Oracle both have tried to build the  
21 developer community. They've invested a lot of money in  
22 building the developer community, and one of the things they do  
23 to build the developer community is they don't charge  
24 developers to use it.

25 **Q.** What about the second category?

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1   **A.**   Right.  So what they do do is they charge the device  
2   makers.  So if you want to put Java on your phone or you want  
3   to embed it in the operating system for a phone, Sun and then  
4   Oracle will offer you a license to do that, and they charge you  
5   what's called a royalty, which is just the fees that you pay on  
6   the license.  They charge you a fee for doing that.  And that  
7   is the primary mechanism by which Java makes money, which is --  
8   monetization is just a fancy word for making money.

9   **Q.**   In this platform market, what might be the role of open  
10  source software?

11  **A.**   So, again, I'm not talking from a legal perspective, but  
12  from an economic perspective, because of the platform nature of  
13  this market, it frequently makes sense for the owner of the  
14  platform to say, you know what?  I'm going to make this  
15  available in an open way with a license, an open source license  
16  so that people can work with it, they can improve it, they can  
17  experiment with it, but I'm going to do that with a license  
18  that I think doesn't make it suitable for the device makers to  
19  use in a commercial product.  So that what I do is I set up  
20  that open source license in a way that it's not designed to  
21  substitute for the royalty-bearing license that the device  
22  makers take to make money from me.

23  **Q.**   You said that having a large community of developers was  
24  important.  How popular was Java to develop?

25  **A.**   So I think we've heard that in testimony in this trial.

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1 In the mid 2000s, there was something like six million  
2 developers writing applications for Java.

3 **Q.** What kind of devices were Java app developers building  
4 programs for?

5 **A.** So Java was on a whole bunch of devices: Automobiles,  
6 desktop computers, then phones, Blue-ray devices, set-top boxes  
7 and so forth. And as you can see here, as devices evolved and  
8 new devices emerged, Java evolved and found its way onto these  
9 new devices as they came about.

10 **Q.** And what was Java's position in the phone market in the  
11 mid 2000s?

12 **A.** So we've heard some testimony about this as well. But in  
13 the mid 2000s, Java was doing very well in the phone market. I  
14 won't go through all of this, but basically what it says, this  
15 is a Sun document from the mid 2000s. And what it says is  
16 there were a billion phones that had Java in them; 600  
17 different models; almost 200 carrier deployments; 600 million  
18 phones sold just in 2005. And you notice the green arrows  
19 here, all of these things were -- were growing at that time.

20 **Q.** And let's talk a little bit about Google. Why is it  
21 important to understand how Google makes money?

22 **A.** So one of the issues that we're going to talk about,  
23 because I understand it to be related to fair use, is just how  
24 commercial was this use, and if we're going to try to  
25 understand how commercial was the use, we need to understand

1 Google's commercial strategy as a company.

2 Q. And in broad terms, how does Google make money?

3 A. Google makes money almost entirely by selling advertising.

4 Q. And do users of Google search engine pay Google money?

5 A. No. If you've gone on Google's website yourself to do a  
6 search, you don't pay to do that.

7 The way Google makes money is it charges advertisers for  
8 eyeballs or clicks or whatever of people it brings to see their  
9 ads somewhere on the web.

10 Q. And to what extent, if any, did the rise in mobile phones  
11 affect Google's advertising business?

12 A. So if we go back to the mid 2000s, Google did not have as  
13 large a share of the search market as it does today, but it was  
14 a major player and it was already making significant money in  
15 advertising. But what it was doing was getting advertising  
16 dollars out of people using its searches primarily starting  
17 from desktop and laptop computers. But people understood that  
18 the world was moving towards phones, and that more and more as  
19 time went by from that time period, the searches were going to  
20 be coming from phones, not from desktops, and it was crucial to  
21 Google to ensure that as that transition occurred, it still  
22 managed to get as many as possible of the searches coming to  
23 its search site and its applications because that's how it  
24 makes money.

25 MR. VAN NEST: Objection, Your Honor, as to what

1 Google intended or desired.

2           **THE COURT:** Sustained. The witness -- I'm going to  
3 tell you a little bit about expert witnesses. We're going to  
4 have -- this is true for both sides' experts.

5           These experts are not -- they're -- they're all retained  
6 by both sides. They were not present at any of the events in  
7 question. They have been shown documents by the respective  
8 sides. They've studied depositions and things. They cannot  
9 vouch for whose fact scenario is correct. It's like at a  
10 traffic accident. You can't have an expert come in after the  
11 fact and say *well, in my opinion the light was red*. No.  
12 That's for the jury to decide. Nor can an expert read  
13 somebody's mind and say what was in the mind of Google or in  
14 the mind of anyone else.

15           However, this will be okay. If you've got a document from  
16 Google where it says *it's crucial for us to get into the mobile*  
17 *market* -- it seems like I saw one that was maybe not that word,  
18 but it was something else -- then the witness, if he relied on  
19 it, can put it up on the screen and say *I'm assuming that this*  
20 *is true*. That would be okay. You can do that.

21           But Mr. Van Nest is correct. I have to be very strict  
22 with the experts and I am strict with the experts for both  
23 sides because they are partisans making arguments for the jury  
24 under oath, but they still -- there is a danger that they will  
25 slide into being a partisan. All right.

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1 I'll give you more instructions on that later on. But if  
2 you have a document, it's perfectly okay to put that up there  
3 to say what was in the mind of Google.

4 **MR. BICKS:** Yeah.

5 **THE COURT:** I propose you do that.

6 **MR. BICKS:** Thank you. I'm about to get to that  
7 document.

8 **THE COURT:** All right.

9 **BY MR. BICKS**

10 **Q.** So have you seen internal Google documents that explain  
11 Google's rationale for investing in Android?

12 **A.** Yes.

13 **MR. BICKS:** So can we go, please, to the next graphic.

14 (Document displayed.)

15 **BY MR. BICKS**

16 **Q.** And what are we looking at here?

17 **A.** So this is a Google document. It comes from after the  
18 time that Android had been launched. And it talks about why  
19 did Google invest in Android.

20 And to an economist, what I take from this is I think  
21 about this relative to my thinking about how platform markets  
22 worked. And I talked about tipping points. And I talked about  
23 the fact that if you come in late what you might find is that  
24 someone else has already taken over the market.

25 And so this document, what I see in this document is

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1 Google saying something that is quite consistent with the way,  
2 as an economist, I think about what was going on at the time.  
3 They say "Don't get locked out."

4 They note that major mobile platform players are pushing  
5 into the software services space. And that platform  
6 consolidation, that's just another word from -- as an  
7 economist, what I read that to mean is they're talking about  
8 there being only a small number of platforms that are going to  
9 succeed moving to the major players.

10 Q. And who, if any, were Google's competitors?

11 A. So at this point in time, Microsoft was in this market.  
12 Simion and Nokia and BlackBerry were in this market.

13 And then in 2007, as we've heard, the iPhone was  
14 released. And that was a major entry into the mobile phone  
15 market.

16 Q. And what, if any, were the challenges facing Google in  
17 launching Android?

18 A. Well, from an economic perspective, it gets back to the  
19 platform economics, things that we talked about. They were  
20 coming late to the table with a mobile phone. There were other  
21 players who were already trying to be the platform in the  
22 mobile phone market. And they were not well established.

23 They had never previously sold a consumer electronics  
24 device. So they weren't -- it wasn't like Apple who everybody  
25 knew was good at that. And they needed the community of



1 developers and the device makers in order to launch and be  
2 successful with their phone.

3 **Q.** And does this pose, in essence, a classic chicken-and-egg  
4 problem?

5 **A.** Yeah, that's one way to think about, sort of, these  
6 dynamics of platform economics that I've been discussing. And  
7 I have intentionally made this picture sort of similar to the  
8 other one because the concepts are analogous.

9 Android needed developers in order to make its phone a  
10 success. It needed device makers and carriers. When Android  
11 first came to the market, in some sense it didn't have either  
12 of those. There were not developers who had experience writing  
13 apps for the Android phone. And it was a new concept to the --  
14 to the device makers and the carriers.

15 **Q.** And how often do platforms like this succeed?

16 **A.** So they frequently don't succeed. In fact, because of the  
17 challenges of launching a platform, we frequently observe that  
18 people try to launch a platform and it just fails.

19 So, for example, Facebook, which is very successful in  
20 social networking, tried to launch a phone. And it was not a  
21 success. Google, very successful in search, tried to launch  
22 Google Plus, a kind of networking thing. And that failed.

23 So we frequently see, in platform markets, even  
24 established players can try to get into that game and fail.

25 **Q.** And how, if at all, did Google go about solving this

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1 chicken-and-egg problem?

2 **A.** So basically Google solved this problem by using the Java  
3 APIs. So --

4 **MR. VAN NEST:** Objection. Move to strike, Your Honor  
5 as to intent and conduct of the parties. This is just a  
6 narrative not based on any document.

7 **MR. BICKS:** It isn't intent, Your Honor.

8 **THE COURT:** Say it again?

9 **MR. BICKS:** It wasn't intent.

10 **THE COURT:** Well --

11 **MR. VAN NEST:** This is not a technical witness either,  
12 Your Honor. It's an economist. He's now talking about --

13 **THE COURT:** I think this is beyond the scope of what  
14 an economist should be saying.

15 **BY MR. BICKS**

16 **Q.** From an economist standpoint, what role, if any, did the  
17 Java API packages play here?

18 **MR. VAN NEST:** Again, Objection, Your Honor. He's not  
19 a technical witness or expert.

20 **THE COURT:** Well, all right. Limit yourself to --  
21 see, the jury --

22 **MR. VAN NEST:** May I voir dire briefly, Your Honor?

23 **MR. BICKS:** Your Honor --

24 **THE COURT:** No.

25 **MR. BICKS:** -- we're on time here. I'm happy to put

1 up a Google --

2 **THE COURT:** We'll let you cross-examine later.

3 All right. Go ahead and answer the question.

4 **THE WITNESS:** Well, from an economist perspective,  
5 this was a market that they were trying to get into. And I've  
6 analyzed what was needed for success in that market. They  
7 needed the developers and they needed the device makers and  
8 carriers.

9 And I'm not a technical expert, but I understand that the  
10 developers knew how to use Java, and that the presence of the  
11 Java APIs in Android created a basis for Android to be -- to  
12 have that developer community in a position quickly to write  
13 applications for Android.

14 **BY MR. BICKS**

15 **Q.** And did you see any Google documents that reference using  
16 the Java API packages to attract developers?

17 **A.** Yes.

18 **MR. BICKS:** And can we please go to the next graphic.

19 (Document displayed.)

20 **BY MR. BICKS**

21 **Q.** And tell us, what are we looking at here? And why is it  
22 important?

23 **A.** So this, again, is a Google document. And what it says  
24 is, "Supporting Java is the best way to harness developers."

25 It notes the existence of the 6 million Java developers,

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1 the tools and documentation that exist to support app  
2 development. And it says, "Strategy: Leverage Java for its  
3 existing base of developers."

4 **Q.** And what economic perspective do you use when you review a  
5 document like these and others?

6 **A.** What I do is I think about what the document says relative  
7 to my understanding as an economist of how markets work. And I  
8 see this as consistent with my understanding.

9 **Q.** And did you see any other Google documents that showed  
10 their efforts to bring phone makers and carriers onboard for  
11 Android, and the importance of these packages?

12 **A.** Yes. So this document -- going back to my picture, we  
13 needed the two sides. This document goes to the developer  
14 side. And now this document goes to the carrier and device  
15 makers' side.

16 This is a presentation that Google, slash, Android made, I  
17 think in this case to Qualcomm. But it made similar  
18 presentations to a number of different device makers and  
19 carriers where it was -- it was selling the Android concept.

20 And what I see here is that when they were selling the  
21 concept, their document says -- the third thing they listed was  
22 that it had a powerful, simple, Java application framework.

23 **Q.** And this is one presentation. How do we know that this  
24 isn't just an outlier?

25 **A.** I think I've seen something like a dozen of these that

1 were made to different device manufacturers and carriers.

2 Q. And to what extent, if any, was Google under economic  
3 pressure to get Android to market quickly?

4 A. It was under very significant pressure to do it quickly.

5 Q. And what if Android would have just built its phone and  
6 share in the market more gradually?

7 A. If Android had come to the market more gradually or had  
8 been slower in building up its -- its presence in the market,  
9 it was threatened by this tipping point phenomenon.

10 There were other players who were trying to do the same  
11 thing. And, as we've seen, the market has evolved to the point  
12 where there really are only two significant players in the  
13 market. Apple is one. The other is Android. It could have  
14 been someone other than Android, if Android had been later.

15 Q. Uh-huh. And have you prepared a graphic that summarizes  
16 these market dynamics from an economic perspective?

17 A. Yes.

18 Q. And can you walk us through this.

19 A. So I've used the phrase -- I don't think I've used it  
20 live, but in my report I pointed out that Android and Google  
21 faced a window of opportunity in the mobile market. And  
22 Mr. Rubin used the same phrase to talk about how they saw  
23 Android.

24 So this is an attempt to, sort of, represent the window  
25 that Android was looking at, that they needed to get through.

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1 But there were significant factors that were, sort of,  
2 threatening that window.

3 We've talked about the platform economics, the fact that  
4 coming late to the game is a disadvantage, and that if you're  
5 behind, you may never catch up.

6 We've talked about the fact that mobile use was rising,  
7 which meant that if Google didn't succeed in getting mobile  
8 users to use its search in the same way that desktop users had,  
9 it was going to lose advertising revenue.

10 There were rivals who were trying to do the same thing.  
11 And one of those rivals was the iPhone, which really, sort  
12 of, accelerated that process.

13 So this window of opportunity was potentially closing  
14 against Android.

15 **Q.** And can you actually identify the date the window opened  
16 and closed?

17 **A.** No.

18 You know, from an economic perspective the significance of  
19 the idea of a window of opportunity is precisely that you don't  
20 know exactly when it's going to close. You're sitting there.  
21 You know that at some point you might get locked out, to use  
22 that phrase. But you don't know when that's going to happen.  
23 You just know that the longer it takes, the more likely it is  
24 that you're going to fail.

25 **Q.** And to what -- to what extent, if any, was Android

1 successful?

2 **A.** Android was enormously successful.

3 **Q.** And have you prepared a graphic that outlines that?

4 **A.** Yes.

5 This is prepared from data that was collected in the  
6 context of this case, and shows that Android went from very low  
7 revenue in 2008, when it was introduced, to almost -- a little  
8 over \$18 billion in 2015. And the cumulative total over that  
9 period is over \$42 billion in revenue.

10 **Q.** And where do these revenues -- what are the different  
11 revenue sources there that you're identifying?

12 **A.** So as you can see, the revenue comes from ads, from apps,  
13 from hardware and digital content. By far the largest is ad  
14 revenue and apps.

15 **Q.** Uh-huh.

16 **A.** The others being smaller.

17 **Q.** So if Android -- if Google doesn't charge for Android,  
18 then how do they generate so much revenue?

19 **A.** Well, basically, you can -- you can see it on this  
20 picture. The revenue comes from the advertising. The  
21 presence -- the fact that people have Android phones, the users  
22 of those Android phones go to the Web in -- in ways that Google  
23 is able to monetize through advertising.

24 **Q.** And did you find any Google document where Google was  
25 looking at the strategic issues that you've been talking about?

1     **A.**    Yes.

2                 **MR. BICKS:**  And maybe we can pull that up.

3                 (Document displayed.)

4                 **THE WITNESS:**  So this is, kind of, a complicated  
5     graphic.  This is an internal strategy document from Google.

6                 And I'm not going to go through it in great detail, but I  
7     just wanted to illustrate the fact that, again, it shows Google  
8     thinking about, I think, in the exhibit, these issues using the  
9     same sort of phrases that I do.

10                They talk about the ecosystem building.  They talk about  
11    the desire to extend the core business.  New monetization  
12    services.  And at the end they also talk about the importance  
13    of scale.

14                **BY MR. BICKS**

15                **Q.**    And from an economist, why is this important to you?

16                **A.**    Well, again, it's just confirmation that this model that I  
17    have of the economic forces that were operating on Android  
18    seems to be correct.

19                **Q.**    And then as an economist, what is your opinion as to  
20    the -- what extent, if any, Google's use of the Java API  
21    packages is of a commercial nature?

22                **A.**    So I think it was highly commercial.  It was very central  
23    to their overall business strategy as a company.  And it  
24    produced a very large amount of revenue.

25                **Q.**    That was the 40-plus billion on the last graphic?



1     **A.**     Correct.

2     **Q.**     All right.   And how do the Java API packages, if at all,  
3     relate to Google's ability to profit from Android?

4     **A.**     Well, if we go back to the discussion that we had about  
5     the window of opportunity and the risks inherent in that, what  
6     I've concluded is that the use of the Java APIs to connect to  
7     the developers and to bring the device makers and carriers onto  
8     the platform was crucial in getting Android launched and  
9     getting Android successful.

10           And if they had not had that way of leveraging, to use  
11     their word, Java, to get the developer community, the whole  
12     enterprise may, in fact, have failed.

13     **Q.**     And as an economist, let's talk a little bit about  
14     transformative use.

15           From an economic standpoint, how do you think of  
16     transformative use?

17     **A.**     So "transformative" is not a term of art in economics.  
18     But I understand that it is -- it is said to be related to the  
19     extent to which the use, the copying, supercedes the use of the  
20     same material by the original creator or owner.

21           And to me, superseding, just from a dictionary  
22     perspective, is the same as substituting.   And when I think  
23     about substituting or substitution, that is a concept that  
24     economists understand and use and analyze.

25     **Q.**     And from an economist standpoint, tell us the key --

1 the -- what substitution is about.

2 **A.** So two things are substitutes if to some degree, some  
3 important degree, potential users can use one in place of the  
4 other as a substitute for the other.

5 **Q.** And do products need to be identical for substitution to  
6 occur?

7 **A.** No. The easier example to think about this is, say, Coke  
8 and Pepsi. You know, some people hate Coke and love Pepsi, and  
9 vice versa.

10 They're not exactly the same. Formulas are different.  
11 But they're substitutes. People understand that they're  
12 substitutes. For many users they don't care. They'll go one  
13 or the other. So those are two products that are similar but  
14 not identical, that are substitutes for each other.

15 And you see the same thing in many markets. If you think  
16 about restaurants or airlines or automobiles, you have  
17 different product offerings that are not exactly the same but  
18 which we still understand do substitute for each other.

19 **Q.** And how does an economist know when substitution occurs?

20 **A.** Well, we look at a variety of things. We would look at  
21 who uses the two products, and do they look at -- do those  
22 users look at them as substitutes.

23 We would look at the interaction in the marketplace  
24 between the products and do they seem to be competing with each  
25 other.

1 And we would look at sales data and what happens to the  
2 actual sales of one product as the other product enters the  
3 market.

4 **Q.** Uh-huh. And we've heard testimony here that Java was used  
5 primarily or licensed in feature phones.

6 How does that impact your analysis of substitution?

7 **A.** It's really not important from my perspective.

8 I mean, the way an economist would think about this is  
9 that phones have different characteristics. And some of them,  
10 at some point in time, might be called smartphones, and others  
11 might be called feature phones.

12 But, still, all of these things at a moment in time, to  
13 varying degrees, do compete with each other and do potentially  
14 substitute for each other.

15 (Document displayed.)

16 **Q.** And you have a graphic here. What does this explain to  
17 us?

18 **A.** So this is just showing how the nature of phones, the  
19 characteristics that they have changed over time. And then at  
20 any given moment in time there were several different kinds of  
21 phones on the market competing with each other.

22 **Q.** And are there any other reasons that the distinctions  
23 between, you know, feature smartphones of that sort have less  
24 economic significance to you?

25 **A.** Well, the -- as I've looked at the evidence, the Java API

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1 packages were in smartphones and they were in feature phones.

2 And the competition occurred in both. However, various people  
3 have defined feature phones and smartphones. So I just don't  
4 think the distinction is that important.

5 **Q.** And can you give us any examples of where Java was used in  
6 smartphones?

7 **A.** Yes. You've heard testimony about this. Mr. Rubin talked  
8 about Danger and Sidekick, which was a smartphone that used  
9 Java.

10 We've also heard talk about the SavaJe phone, which was  
11 another smartphone that used Java.

12 **Q.** Any other examples that you can think of?

13 **A.** I think BlackBerry, in the early days, was a Java  
14 licensee. And its phones at the time were considered  
15 smartphones.

16 **Q.** And when you hear the phrase "smartphone" to you, in your  
17 work here, what is a smartphone?

18 **A.** Well, it depends a little bit on the time period. But  
19 basically it's -- it's a phone which typically has a color  
20 touchscreen, has a full keyboard, and has, you know, other  
21 capabilities that consumers desire.

22 **Q.** And what was the name of the first Android device? And  
23 when did it come out?

24 **A.** So the first Android device was the HTC Dream, which came  
25 out in the fall of 2008.

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1 (Document displayed.)

2 Q. Have you prepared a graphic here? And tell us what this  
3 is.

4 A. So the phone on the left in this picture is the one I just  
5 mentioned, which is an Android phone that was made and, I  
6 think, sold by HTC, one of the device makers.

7 The phone on the right is a different HTC phone that was  
8 called the Touch Pro. And this was a phone that had Java in it  
9 and had a Java license, a smartphone.

10 And, as you can see from the picture, these two phones  
11 were very similar. They both had color touchscreens. They  
12 both had full keyboards.

13 And if you look at the other specifications, again, like  
14 Coke and Pepsi, they weren't identical but they have very  
15 significantly similar features.

16 Q. And what do you make of that?

17 A. Well, I think what that shows is that the phones that were  
18 based on Android were a substitute for the phones that could  
19 license and did license the Java APIs.

20 Q. And are you aware that the Java APIs were licensed both as  
21 part of Java ME and Java SE?

22 A. Yes.

23 Q. And what impact, if any, do the differences between  
24 Java SE or ME have on your substitution analysis?

25 A. Well, again, putting aside any legal issues, just from an

1 economic perspective, they both contained at least portions of  
2 the copyrighted declarations and SSO that are at issue here.

3 So in terms of substitution, what I'm looking for is  
4 substitution for any of the opportunities that Sun and then  
5 Oracle had to license their intellectual property however they  
6 may have chosen to arrange that intellectual property into  
7 different versions.

8 **Q.** And do you have an example of a product that transitions  
9 from ME to SE?

10 **A.** Yes. My understanding is that with respect to the Amazon  
11 Kindle, this was initially licensed by Amazon based on Java ME.  
12 As the Kindle has evolved and become more powerful, Amazon now  
13 has a license that also covers SE.

14 **Q.** Now, let's just, then, sum up this transformative  
15 question.

16 In your opinion, from an economic perspective, how  
17 transformative, if at all, was Google's use of the 37 Java API  
18 packages in Android?

19 **A.** So, again --

20 **MR. VAN NEST:** Object, Your Honor, to the use of the  
21 term "transformative" in this setting.

22 **THE COURT:** Well, the jury will keep in mind the  
23 witness says that transformative was not an economic term. But  
24 he did say that he could give an opinion on the issue of  
25 substitution.

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1           So you can answer with respect to that.

2           **THE WITNESS:** So if we look at it from the perspective  
3 of substitution, it was not a transformative use.

4           The Java APIs allowed function, from an economic  
5 perspective, to connect Android to this base of developers and  
6 the base of device makers it needed. And it created products  
7 that were directly competing with products that Java was  
8 previously licensed to and -- and continued to be licensed to  
9 as the -- as Android was introduced.

10       **BY MR. BICKS**

11       **Q.** And what if Google offered more or different  
12 implementations with the Java API packages? How does that  
13 affect what you've told us?

14       **A.** So, again, from an economic perspective, to whatever  
15 extent Android as -- as a operating system for a phone did a  
16 whole bunch of other things besides what the Java APIs do, that  
17 doesn't change the fact that it still used the Java APIs to  
18 make this platform connection it needed to get to the market.

19           And it still created a product that substitutes for  
20 products into which Java could be licensed by the original  
21 creator.

22       **Q.** So let's focus on the last question here, which is, in  
23 what ways, if any, has the actual or potential market for Java  
24 been harmed by Google's copying of the Java API packages?

25       **A.** Okay. So following pretty directly from the -- the

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1 conclusion that it was a substitute, that -- that sort of means  
2 it potentially could have harmed Oracle.

3 When we look at the actual evidence, what we find is that  
4 it did, in fact, significantly harm Oracle.

5 **Q.** And when you say "evidence," what evidence did you look  
6 at?

7 **A.** I looked at a variety of different kinds of evidence.

8 As I said initially, in thinking about substitution, I  
9 looked at market data. I looked at direct head-to-head  
10 competition between the products.

11 **Q.** Now, earlier you have described Oracle's licensing model  
12 as well as how Google makes money.

13 Can you explain how the difference in those business  
14 models apply to your harm analysis, if at all?

15 **A.** So it's very crucial, in thinking about the harm, that  
16 there were two different business models here.

17 As we said, what Sun and then Oracle did was they made  
18 money by licensing Java to device manufacturers. They charged  
19 the device manufacturers money to embed Java in their devices.

20 Google came along with a different strategy, which was:  
21 We're going to make money on advertising. We're going to give  
22 away the software free because that way we get more -- more  
23 viewers of our content and more advertising money.

24 And there's nothing wrong with that. But what that meant  
25 was that Sun and then Oracle, in competing with Android, were



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1 trying to sell something and make money selling it, competing  
2 against someone who was giving it away for free.

3 And, as I think Ms. Catz said when she was here, it's hard  
4 to compete with free.

5 **Q.** And why does this matter for this case, the different  
6 business models?

7 **A.** Well, we're just trying to understand, in this part of the  
8 analysis, this issue of market harm.

9 And I think the different business models are crucial to  
10 understanding why it was that the copying which enabled Android  
11 then created significant harm for Oracle.

12 **Q.** And are there --

13 **MR. VAN NEST:** I'm going to object and move to strike  
14 with respect to "copying" that enabled Android. He's not a  
15 technical expert.

16 **THE COURT:** Well, I'll let -- it's an argumentative  
17 term. I'll let it stand. Overruled.

18 Please, go ahead.

19 **BY MR. BICKS**

20 **Q.** In conducting your analysis, what markets for the Java API  
21 packages did you consider?

22 **A.** I looked at all the markets in which Java SE or ME had at  
23 some point in time been licensed, which included phones,  
24 tablets, and eReaders, autos, televisions, appliances.

25 **Q.** And what has been Java's historical success, if any, in

1 those markets?

2 **A.** So as we saw earlier, Java has earned licensing revenue in  
3 all of those markets.

4 **Q.** And what were the prospects for Java in mobile phones in  
5 particular?

6 **A.** So in mobile in particular, as we've already seen, in the  
7 mid 2000s Java was doing very well. And they were poised to  
8 ride that mobile revolution using the Java technology.

9 **Q.** And in your work, did you find examples of individual harm  
10 to Oracle?

11 **A.** Yes. In terms of specific customers of what had been Sun  
12 and became Oracle, for example, Samsung was a Java licensee  
13 from whom Java was collecting revenue for having Java in  
14 Samsung phones.

15 Samsung then began making Android phones, I think, in  
16 2012; informed Oracle that they were moving to a so-called  
17 end-of-life license. Meaning they were phasing out using Java.

18 HTC was another manufacturer who had been an ongoing  
19 licensee. It became an Android phone maker and essentially  
20 phased out its royalty payments to Oracle.

21 Sony Ericsson, another example of a device maker who had  
22 been licensing Java and as it transitioned to Android  
23 dramatically reduced its royalty payments to Oracle.

24 **Q.** And in terms of harm, does it make any difference if  
25 Oracle didn't actually build its own hardware phone or create a

1 full stack as that term has been used here?

2 **A.** No. It's really not relevant.

3 As we talked about, the creator of the intellectual  
4 property licenses that property in whatever way they think is  
5 going to create value for them.

6 And what Sun and Oracle had historically done was to  
7 license Java to other people to make things. And that was the  
8 business that was harmed by the emergence of Android.

9 **Q.** And did you make any attempt to measure or depict the harm  
10 to Oracle and smartphones?

11 **A.** Yes, I did.

12 (Document displayed.)

13 **Q.** All right. And can you explain to us what this shows?

14 **A.** So this is just a graphical presentation of data from a  
15 data service that does this kind of analysis for customers on  
16 shipments of phones. And this is showing the market share, the  
17 fraction of phones sold.

18 The blue line is the fraction of phones sold that had Java  
19 licenses. And the green line is the fraction of phones sold  
20 that were Android phones.

21 And what we see -- and I should say, this is smartphones.  
22 So I'm not looking at the whole phone market here. But it's  
23 been suggested that, you know, Java was somehow not suited for  
24 smartphones, or that its decline had to do with the emergence  
25 of smartphones.

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1       What I'm showing here is in smartphones specifically -- so  
2 I'm just looking at smartphones here -- what we find is that  
3 Java had, according to this source, something like almost an  
4 80 percent share in 2007, which then, particularly when Android  
5 took off in 2010 and 2011, declined precipitously.

6       So that by the end of this period, Java's share in  
7 smartphones is -- is nil. And Android has taken over that same  
8 approximate 80 percent share.

9       **Q.** Did you consider other markets besides the smartphone  
10 market to evaluate harm?

11       **A.** I did. In particular, eReaders and tablets.

12       **Q.** And has -- how has Oracle experienced harm in the tablet  
13 and eReader markets?

14       **A.** Well, Ms. Catz talked about this with respect to the  
15 Kindle. Java was in the early Kindles. It's my understanding  
16 that Java was technically appropriate for the Kindle Fire, but  
17 that Amazon chose to use Android for that instead.

18       Kindle is still a Java licensee, but Oracle has been  
19 forced by the competition from Android to dramatically reduce  
20 the level of royalty that it gets for each device. And  
21 that's -- that's harm when -- if you've still got the sale but  
22 you make a lot less money on it, that's still harm.

23       **Q.** Now, we talked about the kinds of harm that Oracle has  
24 experienced in the market for the Java API packages.

25       What would be the consequence of permitting the kind of

1 copying that Google has engaged in here to become widespread?

2 **A.** Well, as we talked about, Java is licensed in other  
3 contexts, like autos and appliances and TVs and so forth. And  
4 that would be a wider scope of harm that Oracle would have to  
5 deal with.

6 **Q.** And are there other consequences of widespread copying of  
7 the Java API packages beyond these existing or potential  
8 markets?

9 **A.** Well, ultimately, again, as Ms. Catz said, if Oracle can't  
10 make money from licensing Java, it's not going to be able to  
11 invest in Java. And it's not going to be able to continue to  
12 maintain and improve it.

13 **Q.** And in -- in summary here, from an economic perspective,  
14 what does your analysis say about the question of whether  
15 Google's copying of the Java API packages was fair use?

16 **A.** So what we -- what I've said is that it was highly  
17 commercial. It was a substitute rather than being  
18 transformative. And it caused significant market harm, all of  
19 which point towards it not having been fair use.

20 **Q.** And do you have a graphic which summarizes what we've  
21 spoken about? And can you then walk us through each piece?

22 (Document displayed.)

23 **A.** Sure. So this is just to help you, kind of, process what  
24 I've said.

25 We started by saying that there was this mobile ecosystem

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1 based on Java, a platform -- Java was the platform that  
2 developers and device makers used and trusted. And Java was  
3 very significantly present in the mobile market, licensing Java  
4 and earning revenue on that licensing.

5 Android came along and entered the mobile market. It  
6 faced significant economic challenges in doing that. And I'm  
7 not speaking to the technical issues. I'm just saying from an  
8 economic perspective. Having Java, the API packages in the  
9 phones, dramatically improved Android's chances of negotiating  
10 this window of opportunity in getting to market.

11 Then what we saw, as a result of that, after getting to  
12 market, they made over \$42 billion with this product, with the  
13 Java APIs in the phone. And, conversely, Oracle significantly  
14 lost its revenue and sales from licensing Java.

15 **MR. BICKS:** Thank you, Dr. Jaffe.

16 **THE COURT:** Okay. Let's go to cross-examination.

17 **MR. VAN NEST:** Thank you, Your Honor. May I have just  
18 a moment?

19 **THE COURT:** Sure.

20 **MR. VAN NEST:** Your Honor, may I proceed?

21 **THE COURT:** Yes, you may.

22 **MR. VAN NEST:** Thank you very much.

23 Good afternoon, everyone.  
24  
25

**JAFFE - CROSS / VAN NEST****CROSS-EXAMINATION**

**BY MR. VAN NEST**

**Q.** Good afternoon, Dr. Jaffe.

**A.** Good afternoon.

**Q.** I take it that you worked with Keystone, as a number of the other Oracle experts did, in this case?

**A.** I did work with Keystone, yes.

**Q.** And they were selected not by you but by Oracle's attorneys; right?

**A.** Yes.

**Q.** And this isn't a team that you work with at school or regularly. They were chosen by the Oracle lawyers to help you in this case; right?

**A.** I've worked with them once before. And I work with a variety of different firms in this kind of work.

**Q.** And they're also supporting the other Oracle experts in this case; right?

**A.** I've heard testimony to that effect. I don't directly know.

**Q.** And in your case, they actually drafted large portions of the report you prepared; right?

**A.** After I prepared an outline and we talked about it, I did assign them to draft portions of it, which I then reviewed.

**Q.** And they spent more time on the report than you did, at least as far as you can tell; right?

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1 A. I think that's probably true.

2 Q. Now, you're an economist -- I think you said that -- not a  
3 technical expert; right?

4 A. Yes.

5 Q. To the extent you have technical opinions, you're relying  
6 on the other experts that Oracle has retained; right?

7 A. If by "technical" you mean software engineering, yes.

8 Q. Okay. You weren't particularly familiar with APIs or  
9 software before the assignment you took in this case; isn't  
10 that right?

11 A. That is true.

12 Q. And, as a matter of fact, at the time you first formed  
13 your opinions, you didn't even know what implementing code was?

14 A. I had only a vague notion.

15 Q. And you were also unfamiliar with what declaring code was;  
16 right?

17 A. Yes.

18 Q. You knew that the Java programming language was free and  
19 open for anyone to use; right?

20 A. Yes.

21 Q. But as between implementing code -- which is not at issue  
22 in this case -- and declaring code, at the time you formed your  
23 opinions you didn't really know the difference; right?

24 A. I think that's fair.

25 Q. So you've treated Android as one big thing, and formed



1 your opinions based on that; right?

2 A. I think it depends on what part of the opinions you're  
3 talking about.

4 Q. Well, for example, there are lots of parts of Android  
5 outside the API method declarations that are at issue in this  
6 case; right?

7 A. Yes.

8 Q. You've seen the Android stack that our jurors have seen a  
9 number of times?

10 A. Yes.

11 Q. You know that it includes a Linux kernel.

12 A. Yes.

13 Q. And that's the operating system at the base of the  
14 platform?

15 A. Yes.

16 Q. It also includes all kinds of open source libraries and  
17 other features that aren't -- that are outside the core  
18 libraries that we're talking about; right?

19 A. That is my understanding, yes.

20 Q. Were you here this morning when Dr. Schmidt went on about  
21 the various virtues of the Android platform and the features it  
22 provides?

23 A. Yes.

24 Q. And you also know that there's a Dalvik Virtual Machine or  
25 an Android runtime that was created by Google engineers?

1 A. Yes.

2 Q. That's part of the platform?

3 A. It's part of the Android platform, yes.

4 Q. Right. And there are more than a hundred libraries,  
5 Android libraries, that were written by Google engineers as  
6 part of the Android platform?

7 A. That is my understanding.

8 Q. And all these elements have value, don't they, Dr. Jaffe?

9 A. They do.

10 Q. And -- but you haven't bothered to sort out value as  
11 between the 11,000 lines of method declarations and the  
12 15 million lines of code in Android; right?

13 A. It wasn't necessary for my opinion to sort that out, so I  
14 did not do it.

15 Q. And, therefore, you didn't do it?

16 A. I did not do it, no.

17 Q. And you understand that the method declarations that are  
18 at issue in this trial represent less than one-tenth of  
19 1 percent of the lines of code in Android; right?

20 A. That arithmetic sounds right.

21 Q. Now, in the mid 2000s, consumers were in the process of  
22 transforming their digital behavior; right?

23 A. I think that's generally fair.

24 Q. In fact, in your report you said precisely that, that in  
25 the mid 2000s, consumers were in the process of transforming

1 their digital behavior?

2 A. Uh-huh.

3 Q. Right?

4 A. Yes.

5 Q. And the mobile application platform space is what you call  
6 a dynamic ecosystem; right?

7 A. Yes.

8 Q. It's a market that could be characterized as highly  
9 volatile; right?

10 A. Yes.

11 Q. One that moves up and down quickly. Isn't that what  
12 "volatile" means?

13 A. Well, I don't think it means the market moves up and down  
14 quickly.

15 Q. All right.

16 A. When I say it was volatile, what I meant was there was a  
17 lot of uncertainty about the place in the market of particular  
18 phones and particular participants.

19 Q. Fair enough.

20 But, as a result of that, the mobile platform market we're  
21 talking about is extremely challenging to model and predict;  
22 right?

23 A. Yes.

24 Q. And that's particularly true -- that's particularly true  
25 when market outcomes are highly uncertain, as they were at the

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1 time of Android's launch; right?

2 A. Yes.

3 Q. I think you said on direct, platforms often fail; right?

4 A. Yes.

5 Q. And, in your view, predicting success in platform markets  
6 with certainty is nearly impossible?

7 A. Yes.

8 Q. "Nearly impossible." That's what you said; right?

9 A. Predicting with certainty is nearly impossible, yes.

10 Q. And, yet, it's your conclusion that without Android, Java  
11 was poised for great success; right?

12 A. Poised, yes.

13 Q. Poised for great success. Isn't that what you told the  
14 jurors?

15 A. That is what I said, yes.

16 Q. You also told our jurors that there was a market window of  
17 opportunity; right?

18 A. Yes.

19 Q. Even though you acknowledge you can't give us a starting  
20 point or an ending point for that window?

21 A. I explained why that's irrelevant, yes.

22 Q. And, in fact, do you have any idea when the window of this  
23 market opportunity opened, Dr. Jaffe?

24 I'm standing over here at the timeline to give you some  
25 help.

1 Can you tell us with any sort of precision when the window  
2 opened?

3 A. Well, I think if we're talking specifically about the  
4 window, which is the way I talked about it, for Android to get  
5 into and succeed in the --

6 Q. Excuse me, Dr. Jaffe. I'm not limiting my question to  
7 Android.

8 You have said you can't determine with any degree of  
9 precision when the market opportunity for smartphones opened;  
10 right?

11 A. Well, I talked about window of opportunity only with  
12 respect to Android.

13 Q. Well, it's an opportunity for anyone that wants to get  
14 there; right?

15 A. But the nature of that window is different for different  
16 players.

17 Q. Okay.

18 A. Because they come to it with different assets and  
19 different liabilities.

20 Q. All right. And, certainly, given your views that this is  
21 a volatile market that's almost impossible to predict, you'd  
22 agree it's almost impossible to predict when the window closes  
23 too; right?

24 A. Yes.

25 Q. Now, you've said that it was a feat, a feat for Google to

1 have established Android as a new, viable mobile application  
2 platform; right?

3 A. Yes.

4 Q. And that's a feat that many other very sophisticated tech  
5 companies failed to achieve; right?

6 A. Yes.

7 Q. Microsoft failed to achieve it?

8 A. Well, they still have a phone. It's not very successful.

9 Q. Facebook failed to achieve it?

10 A. Yes.

11 Q. Amazon failed to achieve it?

12 A. Yes.

13 Q. And Sun failed to achieve it too?

14 A. Yes.

15 Q. And so far Oracle has failed to achieve it as well; right,  
16 Dr. Jaffe?

17 A. Yes.

18 Q. Sun invented Java; right?

19 A. Yes.

20 Q. And they were the experts in Java starting in the early  
21 '90s; right?

22 A. Yes.

23 Q. And yet they failed to achieve this feat of building a  
24 full stack smartphone platform; right?

25 A. Well, I don't know what the "and yet" is about there.

1 They were not really a device maker. They did look at that  
2 possibility, and tried for a short period of time, and then  
3 abandoned it.

4 Q. Right.

5 You had access to all of the deposition videos and  
6 transcripts that our jurors have seen played during the trial;  
7 right?

8 A. Yes.

9 Q. In fact, your report says you had dozens of depositions  
10 that you were free to read?

11 A. Yes.

12 Q. And hundreds of documents you were free to review?

13 A. Yes.

14 Q. Right?

15 And among those were the sworn testimony of Mr. Gering, at  
16 Sun, that Sun was never able to turn the SavaJe into a  
17 commercial product; right?

18 A. Yes.

19 Q. And you -- you gave SavaJe as a great example of a  
20 Java SE-licensed product, in your direct examination, didn't  
21 you?

22 A. I don't think I said it was a great example. I just said  
23 it was an example.

24 Q. It was an example of failure, though; right?

25 A. It was not a successful product.

**JAFFE - CROSS / VAN NEST**

1 **Q.** That's right.

2 In fact, it never made it to the market in any significant  
3 way; right, Dr. Jaffe?

4 **A.** That is correct.

5 **Q.** And you were calling it a smartphone.

6 By the way, I notice none of the Oracle experts have  
7 actually shown us the SavaJe, including you; right?

8 **A.** That is correct.

9 **Q.** Do you recognize this (indicating)?

10 **A.** Could I see it?

11 **Q.** Sure.

12 **MR. VAN NEST:** May I approach the witness, Your Honor?

13 **THE COURT:** Yes.

14 **BY MR. VAN NEST**

15 **Q.** That's a SavaJe phone --

16 **A.** Yes, it is.

17 **Q.** -- right?

18 **A.** Yes, it is.

19 **Q.** No touchscreen?

20 **A.** That's correct.

21 **Q.** No keypad -- no QWERTY?

22 **A.** That is correct.

23 **THE COURT:** Better explain to the jury what you mean  
24 by QWERTY.

25 **MR. VAN NEST:** QWERTY, the keyboard like on a -- oh,



**JAFFE - CROSS / VAN NEST**

1 I'm sorry. I'm not the witness.

2 (Laughter)

3 **BY MR. VAN NEST**

4 **Q.** Go ahead, Dr. Jaffe.

5 **A.** I like being a witness.

6 So if you picture a computer or a typewriter keyboard,  
7 starting with your pinkie it goes Q, W, E, R, T, Y. So people  
8 sometimes make that into a word. And they call it QWERTY.

9 There's actually an interesting historical story about it.

10 **THE COURT:** All right. That's too much.

11 (Laughter)

12 **THE COURT:** Next question.

13 **MR. VAN NEST:** We all get in trouble.

14 **BY MR. VAN NEST**

15 **Q.** In any event, Dr. Jaffe, this is the SavaJe phone that you  
16 and others have said was a great early version of smartphone;  
17 right?

18 **A.** I never said it was great.

19 **Q.** Okay. Fair enough.

20 Now, folks internal at Sun did discuss the smartphone and  
21 the feature phone markets as separate things, didn't they?

22 **A.** They did on occasion, yes.

23 **Q.** And on occasion they drew a big distinction between the  
24 smartphone market and the feature phone market; right?

25 **A.** They drew distinctions, yes.

**JAFFE - CROSS / VAN NEST**

1 **Q.** Okay. And have you had occasion to review some of the  
2 internal memos and documents at Oracle on this -- excuse me, at  
3 Sun on this subject?

4 **A.** Yes, I have.

5 **MR. VAN NEST:** Could we put up TX 2052. It's in  
6 evidence, Your Honor.

7 (Document displayed.)

8 **THE COURT:** Okay.

9 **MR. VAN NEST:** And could we go to page 16, slide 16,  
10 please.

11 **THE COURT:** Just remind the jury, it said -- give us  
12 the date so that everyone will have it in mind.

13 **MR. VAN NEST:** This is --

14 **THE COURT:** March 2009.

15 **MR. VAN NEST:** Thank you.

16 (Laughter)

17 **MR. VAN NEST:** Thank you, Your Honor.

18 **BY MR. VAN NEST**

19 **Q.** All right. So this is actually a document created by  
20 folks at Sun in '09; right?

21 **A.** That's my understanding, yes.

22 **Q.** And it's created before this lawsuit started?

23 **A.** Yes.

24 **Q.** All right. And what it's showing us here is today's Java  
25 footprint as of March of '09; right?

**JAFFE - CROSS / VAN NEST**

1     **A.**    That's what I understand it to represent.

2     **Q.**    And you can see --

3                 **MR. VAN NEST:**   Do you have a laser pointer?

4     **BY MR. VAN NEST**

5     **Q.**    You can see that on the right, up near the top, you've  
6     got iPhone and Android; right?

7     **A.**    Yes.

8     **Q.**    And they're in a category indicated by the left side of  
9     the slide as a smartphone; correct?

10    **A.**    Yes.

11    **Q.**    Windows barely makes it in, but there's apparently a line  
12    here between smartphone and feature phone.

13               Do you see that?

14    **A.**    Yes.

15    **Q.**    And then there's a "low cost" category down below; right?

16    **A.**    Yes.

17    **Q.**    Now, this slide depicts, at least according to the folks  
18    at Sun, that Java was in the feature phone market; right?

19    **A.**    Primarily.

20    **Q.**    And it was, on a standpoint of richness and capability,  
21    quite far behind even Windows mobile; right?

22    **A.**    Well, I didn't make this chart. I interpreted it to mean  
23    that the phones that Java was in were perceived, at that time,  
24    to be below the Windows iPhone in richness and capability.

25    **Q.**    And here we have iPhone and Android out on the edge of

**JAFFE - CROSS / VAN NEST**

1 the scale of richness and capability, way past Java. At least  
2 according to the folks at Sun; right?

3 **A.** Way past the phones that Java was in.

4 **Q.** Fair enough.

5 And this suggests that, at least as of '09, people at Sun  
6 believed that to the extent Java was out there in mobile, it  
7 was primarily in feature phones; right?

8 **A.** Yes.

9 **Q.** And most of the licensees that were building those feature  
10 phones had licenses to Java ME; right?

11 **A.** That's correct.

12 **Q.** So those were Java ME licensees building feature phones in  
13 the feature phone market, at least according to Sun; right?

14 **A.** They were licensees with Java ME licenses which were  
15 primarily in what was characterized here as the feature phone  
16 market.

17 **Q.** Okay. And Mr. Ellison himself said that when he bought  
18 Sun. Java was primarily in feature phones. Right?

19 **A.** I don't recall.

20 **Q.** You had access -- again, you had access to all this  
21 material in forming your opinion. The depositions, the  
22 documents, this document, all of it --

23 **A.** Yes.

24 **Q.** -- right?

25 **MR. VAN NEST:** Could we play Mr. Ellison's video

1 deposition from August of 2011, at page 15, lines 14 to 19.

2 (Videotaped testimony played as follows:

3 "Q. Was the Java presence at that time primarily limited  
4 to what are called feature phones?

5 "A. At that time, Sun's business was primarily feature  
6 phones.")

7 BY MR. VAN NEST

8 Q. And you don't have any reason to disagree with that;  
9 right?

10 A. No.

11 Q. The documents show it. The witnesses show it. There's  
12 really no dispute that Sun's presence with Java was in feature  
13 phones, in the feature phone market?

14 A. Primarily.

15 Q. Okay. Now, you told me that the feature phone market  
16 builders were using Java ME to do that, primarily?

17 A. Primarily.

18 Q. Right?

19 A. Yes.

20 Q. And Java ME, that's the Micro Edition?

21 A. That's correct.

22 Q. You understand that the issue in this case, with respect  
23 to market harm, is whether or not the use of the method headers  
24 caused harm to the copyrighted work or derivatives of that  
25 work; right?

**JAFFE - CROSS / VAN NEST**

1     **A.**    I'm not a legal expert, but that's consistent with my  
2     understanding.

3     **Q.**    In other words, in preparing to form and issue opinions,  
4     weren't you told that what you're expected to look at on this  
5     issue is harm to the copyrighted work?

6     **A.**    And its derivatives, yes.

7     **Q.**    Now, the copyrighted work in this case is Java SE, not  
8     Java ME; right?

9     **A.**    That is my understanding.

10    **Q.**    So the focus, at least in the first instance, of our  
11    market harm analysis should be what has been the harm, if any,  
12    to Java SE, because it's the copyrighted work; right?

13    **A.**    That's not how I think about it as an economist.

14    **Q.**    You kind of blurred it all together; right?  ME, SE, Java,  
15    big, that's --

16           **MR. BICKS:**  Your Honor, there's interruptions of the  
17    witness.

18           **THE COURT:**  All right.

19           **MR. VAN NEST:**  I'll ask another question.

20           **THE COURT:**  Wait.

21    Have you finished your answer?

22           **THE WITNESS:**  I've lost track.

23           **THE COURT:**  All right.  Well, then, you were jumping  
24    in on his answer.

25           **MR. VAN NEST:**  I think I was.

## JAFFE - CROSS / VAN NEST

1           **THE COURT:** All right. Go ahead.

2           **BY MR. VAN NEST**

3           **Q.** So Java ME has a total, a total of 10 APIs; right?

4           **THE COURT:** Can we be clear on the API -- when we --  
5 do you mean packages?

6           **MR. VAN NEST:** Yes, Your Honor.

7           **THE COURT:** All right.

8           **MR. VAN NEST:** Let me be more clear.

9           **THE COURT:** Let's be more precise.

10          **MR. VAN NEST:** Good point.

11          **THE COURT:** I think we are getting too many -- the  
12 word "APIs" is being used --

13          **MR. VAN NEST:** Good point.

14          **THE COURT:** -- in too many different ways.

15          **MR. VAN NEST:** Good point.

16          **BY MR. VAN NEST**

17          **Q.** I'm talking, now, about the whole package. Not just the  
18 declaration, not just the implementing code, but the whole  
19 thing.

20          **THE COURT:** Well, wait. Even that.

21          Use the term "package" in the same way as the jury has  
22 heard "37 packages."

23          **MR. VAN NEST:** That's right.

24          **THE COURT:** So if you're going to say 10 packages, for  
25 ME --

**JAFFE - CROSS / VAN NEST**

1           **MR. VAN NEST:** That's right.

2           **THE COURT:** It has to be an apples-to-apples thing.

3           **MR. VAN NEST:** That's what I'm --

4           **THE COURT:** Help the jury out and make sure to use it  
5 in the same way.

6           **MR. VAN NEST:** That's what I'm getting at.

7           **BY MR. VAN NEST**

8           **Q.** Let me start this way: Java SE has a total of about 166  
9 API packages; right?

10          **A.** That's my understanding.

11          **Q.** And in this case you know that the Google engineers used  
12 the method headers, and only the method headers, from 37 of  
13 those packages; right?

14          **A.** The method headers and the structure, sequence and  
15 organization.

16          **Q.** Okay. Java ME has a total of only 10 API packages; right?

17          **A.** Uhm, I think there are a couple of versions of Java ME.  
18 The number I remembered was 12, but I don't remember exactly.  
19 It's on that order.

20          **Q.** But it's -- it's much smaller than Java SE?

21          **A.** It is smaller than Java SE.

22          **Q.** And it's much smaller than Android too?

23          **A.** It is smaller than Android.

24          **Q.** And it was actually created for small resource-constrained  
25 devices; right?



**JAFFE - CROSS / VAN NEST**

1     **A.**    That is correct.

2     **Q.**    In fact, a number of Sun witnesses have said -- and,  
3     again, you had access to all this material -- that Java ME is  
4     not even capable of supporting a smartphone; right?

5     **A.**    I've seen some testimony to that effect, yes.

6             **MR. VAN NEST:**   Could we put up the testimony from  
7     Mr. Rizvi, of Sun, from July 28th, 2011.   Page 203, lines 14,  
8     to 204, line 1, please.   I guess we can play it.

9             (Testimony displayed.)

10            **MR. VAN NEST:**   Oh, we're going to put it up.

11            **Q.**    Can you tell me exactly what Java ME is missing that  
12     these other smartphone operating system products have?

13            "Well, without going into a feature-by-feature list,  
14     ME was developed for feature phones -- or, ME was  
15     developed for mobile devices, and for the longest time  
16     was -- in fact, it still is the predominant platform for  
17     feature phone devices.

18            "As the market for smartphones started growing, the  
19     logical thing for ME to do would have been to evolve the  
20     product to meet the requirements of smartphones."

21     **BY MR. VAN NEST**

22     **Q.**    That was Mr. Rizvi.

23            Is that one of the things you reviewed in preparing to  
24     form your opinions?

25     **A.**    Uhm, I don't recall specifically this piece of testimony.

**JAFFE - CROSS / VAN NEST**

1 I'm familiar with this -- this position.

2 **Q.** Well, this position, this was what Sun thought back in the  
3 day; right?

4 **A.** This is what Mr. Rizvi says, yes.

5 **Q.** Right. And he was a fairly senior salesperson at Sun;  
6 right?

7 **A.** Yes.

8 **Q.** By the way, who picked out the excerpts and the documents  
9 for you to review? Did you do that? Or did somebody provide  
10 that to you?

11 **A.** So my team had access to the complete record of the case.

12 I, in consultation with them, talked about topics that I  
13 wanted to understand. And they searched for documents that  
14 were informative on those topics --

15 **Q.** Okay.

16 **A.** -- and helped me sort through them.

17 **Q.** But you don't remember seeing this one?

18 **A.** I don't remember one way or the other. I reviewed a  
19 tremendous amount of material.

20 **Q.** Do you recall reviewing Mr. Stahl's testimony from Oracle,  
21 that Java ME was not even intended to be used in a smartphone?

22 **A.** Yes, I think I do recall reading that.

23 **Q.** Okay.

24 **MR. VAN NEST:** Do we have that on a slide?

25 Mr. Stahl's testimony in deposition.

**JAFFE - CROSS / VAN NEST**

1 (Testimony displayed.)

2 **MR. VAN NEST:** Here we go.

3 "Do you believe that Java ME provides the features and  
4 functionality needed for a modern smartphone?

5 "No. I believe that the logical choice for a modern  
6 phone would be to adopt Java SE from a technology  
7 perspective.

8 "So you don't believe that Java ME has the features  
9 and functionality needed for a modern smartphone?

10 "I don't think it was ever intended for that."

11 **BY MR. VAN NEST**

12 **Q.** Do you recall reviewing that as part of your preparation,  
13 Dr. Jaffe?

14 **A.** Yes, I think so.

15 **Q.** And do you recall seeing, even as late as 2016, Oracle  
16 witnesses saying, "We have no solution for smartphones"?

17 **A.** Yes.

18 **Q.** "No solution for smartphones" at Oracle in 2015 was  
19 something that the Oracle witnesses presented in the video  
20 testimony that we played last week; correct?

21 **A.** I don't recall.

22 **Q.** So when you say, as you did on direct, that Java was  
23 poised to be successful, it turns out that the efforts that  
24 they made, whatever they were, were not successful in terms of  
25 building technology for a smartphone; right?

**JAFFE - CROSS / VAN NEST**

1   **A.**   Well, the history that we see has Android in it.  And with  
2   that --

3   **Q.**   Excuse me.  Excuse me.  That's not an answer to the  
4   question.

5           **MR. BICKS:**  Your Honor, he can't answer the question  
6   without being interrupted.

7           **THE COURT:**  He was about to slide off and go in a  
8   different direction.

9           So you've got to answer -- he's entitled to an answer to  
10   his question.  And then you can give an explanation.

11          So ask the question again.  Then say yes or no and give an  
12   explanation.

13           **THE WITNESS:**  Okay.  Fair enough.

14          So in the world that we see, they did not further develop  
15   ME.  And SE has not been successful in smartphones.  But all of  
16   those decisions were affected by the entry and success of  
17   Android.

18   **BY MR. VAN NEST**

19   **Q.**   Well, let's -- let's test that, Dr. Jaffe.

20          When did the SavaJe phone fail?

21   **A.**   In the mid 2000s.

22   **Q.**   Yeah.  It failed before Android was even announced; right?

23   **A.**   I don't remember specifically.

24   **Q.**   And do you recall a project at Sun called Acadia?

25   **A.**   Yes.

**JAFFE - CROSS / VAN NEST**

1     **Q.**     And that failed too; right?

2     **A.**     It was abandoned, yes.

3     **Q.**     It was abandoned.

4             And do you recall a project called Daneel?    "Sundroid"  
5     they called it.

6     **A.**     Yes.

7     **Q.**     That failed too?

8     **A.**     It was abandoned, yes, is my understanding.

9     **Q.**     And you saw last week that Mr. Ellison looked at a Java  
10    phone project and concluded, at least according to the slides  
11    that he prepared, that Oracle had too little expertise to build  
12    a smartphone; right?

13    **A.**     I did see that, yes.

14    **Q.**     That slide deck that Mr. Ellison prepared and that we  
15    examined him on, that didn't say anything about Android?

16    **A.**     It didn't, no.

17             **MR. VAN NEST:**    Could I have up the chart that -- it's  
18    TX 5397.    It's one of -- it's the -- that's the one.

19             (Document displayed.)

20             **MR. VAN NEST:**    That's the one.

21    **BY MR. VAN NEST**

22    **Q.**     Now, you showed this as -- as evidence that Android  
23    somehow substitutes or caused harm to Java; is that the idea of  
24    this?

25    **A.**     Yes.

1 Q. Okay. And I think you said this is only smartphones?

2 A. That's correct.

3 Q. So there was a time when Java had 80 percent of a  
4 smartphone market?

5 A. That's correct.

6 Q. Was that with the SavaJe, or what?

7 A. I believe it was BlackBerry and other -- also some  
8 Simion-based phones.

9 This exhibit is not based on my deciding what's a  
10 smartphone and what's not. It was taken from an industry  
11 source that people frequently use. And it was Gardner himself  
12 who characterized the phones as smartphones versus feature  
13 phones.

14 Q. Okay. So the industry people, just like Sun, they also  
15 distinguish between the feature phone and the smartphone  
16 market; right?

17 A. I said in my testimony that various parties throughout  
18 this period, at points in time, did make that distinction, yes.

19 Q. Okay. And this was -- this was from a well-respected  
20 industry source; they were distinguishing between smartphones  
21 and feature phones?

22 A. That's correct.

23 Q. They considered them different markets?

24 A. I wouldn't say they considered them different markets. I  
25 would say they considered it useful, for market analytical

## JAFFE - CROSS / VAN NEST

1 purposes, to look at the two groups and their relationship.

2 Q. I see.

3 But just like the Sun people considered smartphones and  
4 feature phones as different; right?

5 A. I don't know if it was "just like" or not.

6 Many people, at many points in time, found it useful to  
7 have that categorization.

8 Q. Now, you were aware, Dr. Jaffe, that people inside Sun  
9 were predicting exactly that decline for Java, before Android  
10 was even announced; right?

11 A. Their projections did not go through 2015.

12 Q. Let's take a look at TX 7237. And this is a -- this is  
13 one of the slide decks that you had access to, Dr. Jaffe;  
14 correct?

15 A. That's correct.

16 Q. It was written in -- this is important. September 29th,  
17 2006.

18 According to this, that's a year, more than, before  
19 Android was announced; right?

20 A. That's correct.

21 Q. A full year.

22 And, by the way, once it was announced, that didn't mean  
23 there was a phone on the market, did it?

24 A. It took about another year.

25 Q. Another year. And that phone, HTC Dream, it didn't take

**JAFFE - CROSS / VAN NEST**

1 off as a barn burner either; right?

2 **A.** Not immediately, no.

3 **Q.** Not as bad as SavaJe, but it sure didn't skyrocket; right?

4 **A.** That's my understanding.

5 **Q.** It wasn't until later, 2010, when Motorola came out with  
6 Droid, that Android took off; right?

7 **A.** Yeah, I think that's what my exhibit showed.

8 **MR. VAN NEST:** Now, could we go to page 3 of this.

9 (Document displayed.)

10 **MR. VAN NEST:** Let's go to page 4. I think there's a  
11 chart here. Do I have the wrong one?

12 You're right. Let's go back. Let's go back.

13 **BY MR. VAN NEST**

14 **Q.** So this is folks at Sun, a year before Android came out,  
15 predicting that the market was changing; right?

16 **A.** Yes.

17 **Q.** "Increase in device capability..."

18 **MR. VAN NEST:** Could we underline that?

19 **BY MR. VAN NEST**

20 **Q.** "...and networking, shifting the market to advanced  
21 platforms. Growth is more than 5x feature phones."

22 Right?

23 **A.** That's what it says.

24 **Q.** So before Android even came along, the folks at Sun were  
25 aware there was a threat out there that the market was



1 changing; correct?

2 A. Yes.

3 Q. And -- and you said that too. You are said consumers were  
4 transforming their behavior; right?

5 A. Yes.

6 Q. All right.

7 MR. VAN NEST: Now, could we go to page 5.

8 (Document displayed.)

9 BY MR. VAN NEST

10 Q. This looks a lot like your chart that you showed the jury  
11 on direct, doesn't it, in terms of the line for Java?

12 A. Well, it doesn't really. It goes through 2010. And it  
13 doesn't show the revenue going to zero.

14 Q. Well, let's look at what it does show. By the way, this  
15 is Java ME; correct?

16 A. Yes.

17 Q. And Java ME is what Sun had in feature phones; right?

18 A. Yes.

19 Q. And Sun recognized that the world was changing and that  
20 there was a new market emerging for smartphones. Or let's call  
21 them "more powerful phones," okay. Right?

22 A. Okay.

23 Q. And what they said was -- and this is people at Sun in  
24 2006; right --

25 A. Yes.

## PROCEEDINGS

1 Q. -- Dr. Jaffe? Not created for litigation, but created to  
2 plan their business?

3 A. That's my understanding.

4 Q. Okay. They were telling their management that, if we stay  
5 the course, revenue is going to go from 140 million down to  
6 less than 60, maybe down to 50 million potentially; right?

7 A. Under one scenario, yes.

8 Q. Right. And the other scenario, it drops -- it still  
9 drops, but not so bad?

10 A. Right. It remains above a hundred million.

11 Q. So people at Sun -- and this is all before Android was --  
12 had even been announced in a phone; right?

13 A. Yes. We've said that several times.

14 Q. And a couple of years before a phone came on the market?  
15 An Android phone.

16 A. That is correct.

17 Q. Now, did you make any investigation to determine whether  
18 or not Sun did anything to avoid just staying the course?

19 A. Uhm, I don't think I did an investigation framed in those  
20 terms, no.

21 Q. Okay. So you can't tell our jury whether Sun did or did  
22 not do anything to avoid what they saw as inevitable if they  
23 didn't change what they were doing at the time; right?

24 A. Not specifically with respect to this memo.

25 **THE COURT:** All right. We're at 1:00 o'clock.

## PROCEEDINGS

1 Do you have one or two more questions? Or do you want to  
2 break now?

3 **MR. VAN NEST:** Whatever Your Honor wishes. That's  
4 fine.

5 **THE COURT:** We're going to break here for the day.  
6 I want to say to the jury one little heads-up, because  
7 sometimes juries get confused on this.

8 All of these experts do what are called expert reports.  
9 But they do not go into the jury room and they never come into  
10 evidence.

11 So you're over their hearing, oh, that's great I'll get to  
12 read it in the jury room. No. It's hearsay. It doesn't come  
13 into evidence. And the way you get to hear about it is from  
14 the verbal testimony here in court and the presentations in  
15 court.

16 Even the illustrative things that are put on the screen  
17 don't go into the jury room. So I've already told you that  
18 part. But the reports themselves, they don't go into evidence.

19 So, as you have been, you've been taking a lot of notes.  
20 One of you over there, I understand, has now gone to notebook  
21 number 3.

22 (Laughter)

23 **THE COURT:** Okay. So you've got lots of notes. Good  
24 for you.

25 See you here tomorrow. We're on track. Remember the

## PROCEEDINGS

1 admonition.

2 (Jury out at 1:00 p.m.)

3 **THE COURT:** All right. Have a seat, everyone.

4 I have a question, but I don't want to ask it to the  
5 lawyers unless -- I think there's something that no one has  
6 addressed yet, that I think is a major thing.

7 And maybe I'm just -- but I don't want to bring it up  
8 unless both sides beg me to, because you will then say that I'm  
9 somehow trying to influence things.

10 So you think about whether you want me to -- maybe in the  
11 morning I'll ask the question.

12 (Laughter)

13 **THE COURT:** All right. Here's the time so far: And  
14 that is 8.49 Oracle; Google 7.75.

15 You know, it's possible we'll have a small amount of time  
16 left over in the morning. You can't agree on 30 minutes?

17 **MR. BICKS:** I --

18 **MR. VAN NEST:** Your Honor, we've been -- I cut out  
19 witnesses on -- in my direct case. I honestly would -- you've  
20 repeatedly told us through the case that we wouldn't get more  
21 time. And I've heard that two or three times.

22 I've cut out witnesses and tried to shorten the crosses.  
23 So I really don't think it's fair, now that they're in their  
24 case, to extend the time.

25 And I'm not asking for any more time. And I think it

## PROCEEDINGS

1 would be unfair, as many times as you've told us you wouldn't  
2 do that --

3 **THE COURT:** True. I did say that.

4 **MR. VAN NEST:** -- to do it now, repeatedly.

5 **MR. BICKS:** Your Honor --

6 **THE COURT:** Yes.

7 **MR. BICKS:** -- the only point I would make is now  
8 we've got four rebuttal witnesses in an area where, at least by  
9 my view of this, there's no real surprise of anything that's  
10 come up here. And now we're dealing with four rebuttal  
11 witnesses.

12 **THE COURT:** What's wrong with rebuttal witnesses?

13 **MR. BICKS:** I don't really --

14 **THE COURT:** Google does have the burden of proof.  
15 They can put on rebuttal witnesses.

16 I'm going to leave things as they are for now. But that's  
17 what -- so Oracle is down to 51 minutes to go.

18 So be -- be mindful of the clock.

19 **MR. VAN NEST:** Thank you, Your Honor.

20 **THE COURT:** Now, you said there's a witness we need to  
21 put on in the morning, out of turn?

22 **MR. VAN NEST:** Yes. We've agreed to that. And I  
23 apologize to the Court and Dr. Jaffe, but we did have a witness  
24 that we agreed would come in at 8:00 and be, probably,  
25 relatively short. And then we'll get back to Dr. Jaffe.

## PROCEEDINGS

1           **THE COURT:** If we start with Dr. Jaffe even sooner --  
2     you ought to have that witness here right away. The jury may  
3     be here at 7:45. We can be hearing evidence. This jury comes  
4     in early. So that witness ought to be here at 7:45.

5           **MR. VAN NEST:** We'll have him here.

6           **THE COURT:** Okay.

7           **MR. VAN NEST:** And my hope is -- or at least our  
8     understanding, our agreement was that we go on first. And we'd  
9     finish with him, and then we'd resume with our expert witness  
10    here.

11          **THE COURT:** Is that the agreement?

12          **MR. BICKS:** Yes.

13          **THE COURT:** Fine. If that's what you want to do.  
14    All right. Anything more for the judge today?

15          **MR. VAN NEST:** I don't believe so.

16          **MR. BICKS:** No, Your Honor.

17          **THE COURT:** All right. See you tomorrow.

18          **MR. VAN NEST:** Thank you, Your Honor.

19           (At 1:04 p.m. the proceedings were adjourned until  
20    Thursday, May 19, 2016.)

21                               - - - -

CERTIFICATE OF REPORTERS

We certify that the foregoing is a correct transcript  
from the record of proceedings in the above-entitled matter.

DATE: May 18, 2016

*Katherine Sullivan*

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Katherine Powell Sullivan, CSR #5812, RMR, CRR  
U.S. Court Reporter

*Pamela A. Batalo*

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Pamela A. Batalo, CSR No. 3593, RMR, FCRR  
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